

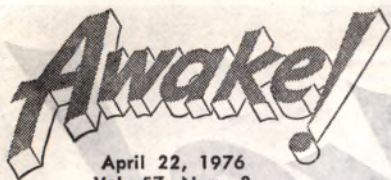
Awake!

WHY ARE WE HERE?



APRIL 22, 1976

177 Adams Street, Brooklyn, N.Y. 11201, U.S.A.
OF NEW YORK, INC.
PUBLISHED BY THE
BIBLE AND TRACT SOCIETY
OF NEW YORK, INC.



April 22, 1976
Vol. 57, Num. 8

Average Printing Each Issue:
9,925,000

WHY THIS MAGAZINE IS PUBLISHED

Today as never before, what goes on in the rest of the world affects each one of us. "Awake!" reports on the world scene. But it does more for you personally.

It probes beneath the surface and points to the real meaning behind current events. And it gives practical suggestions to help you to cope effectively with the mounting problems of our time.

The scope of subjects covered by "Awake!" makes it a magazine for the entire family. Customs and people in many lands, the marvels of creation, religion, practical sciences and points of human interest all are included in its pages.

In keeping its freedom to bring you the truth, this magazine has no commercial advertisers to please. Also, it stays politically neutral and it does not exalt one race above another.

Most importantly, "Awake!" provides hope, giving you a basis for confidence in the Creator's promise of a new order of lasting peace and true security within our generation.

Now Published in 32 Languages

Semimonthly Editions:

Afrikaans	Finnish	Italian
Cebuano	French	Japanese
Danish	German	Korean
Dutch	Greek	Norwegian
English	Iloko	Portuguese

Spanish
Swedish
Tagalog
Zulu

Monthly Editions:

Chinese	Malayalam	Sesotho	Ukrainian
Cinyanja	Melanesian	Tamil	Xhosa
Hiligaynon	Pidgin	Twí	Yoruba
Indonesian	Polish		

Five cents a copy

Watch Tower Society offices	Yearly subscription rates for semi-monthly editions in local currency
America, U.S., 117 Adams St., Brooklyn, N.Y. 11201	\$1.50
Australia, 11 Beresford Rd., Strathfield, N.S.W. 2135	\$2.50
Canada, 150 Bridgeland Ave., Toronto, Ontario M6A 1Z5	\$1.50
England, Watch Tower House, The Ridgeway, London NW7 1RN	£1.50
Hawaii, 1228 Pensacola St., Honolulu 96814	\$1.50
New Zealand, 6-A Western Springs Rd., Auckland 3	\$1.50
Nigeria, West Africa, P.O. Box 194, Yaba, Lagos State	₦1.10
Philippines, P.O. Box 2044, Manila 2800	₱8
South Africa, Private Bag 2, P.O. Elandsfontein, 1406	R1.30

(Monthly editions cost half the above rates.)

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

IN THIS ISSUE

Why Are We Here on Planet Earth?	3
There Must Be a Purpose	4
What Man's Maker Has in Mind	8
Seize the Opportunity Now!	11
Their Home Is Their Workshop	16
"Ham" Radio—A Hobby That Can Help Others	20
Meet the Bat —The Only Flying Mammal	23
What Is the Bible's View? Did Jesus Have Brothers and Sisters?	27
Watching the World	29

PUBLISHED BY
WATCHTOWER BIBLE AND TRACT SOCIETY
OF NEW YORK, INC.
117 Adams Street, Brooklyn, N.Y. 11201, U.S.A.
N. H. KNORR, President GRANT SUTTER, Secretary

WHY ARE WE HERE ON PLANET EARTH?



HAVE you ever looked up into a cloudless sky at night and wondered, Why am I here? Of all the planets and other heavenly bodies, the earth alone is known to provide an ideal environment for the maintenance of a great variety of plant and creature life. Is it just by a chance combination of many improbabilities that this earth and its various life forms came

into existence? Or, is there evidence that such things are the handiwork of an intelligent Maker?

Many people today believe that humans are the product of evolution and have no accountability to a superior being. So they conclude that our purpose for being on earth is to live our life according to our own desires and standards. As "no person is an island," each would, of course, have to exercise care not to ruin relationships with those upon whom he or she depended. Basically, one's whole life might center around pleasing oneself and trying to make some contribution to society with a view to gaining personal satisfaction and recognition in the world.

But of what real encouragement is such a view? Regardless of what a person may accomplish during his lifetime, all will be lost at death. Eventually he will be forgotten as a person, though his name may be mentioned for a number of years thereafter.

All of this gives rise to the question, Are some seventy or eighty years of life on earth really enough to make life seem meaningful? Rather, does it not seem frustrating that so much is lost at death? A person spends some twenty years growing up, another twenty years or so gaining further knowledge and experience, and not long thereafter he begins to age and weaken. Finally death puts a stop to all his work. While some of his knowledge may have been imparted to others, the sum total of his knowledge and experience is lost to posterity. What a shame and waste this is when, after so many centuries of man's existence, there are still countless mysteries about this earth and boundless space that remain to be solved!

On the other hand, millions of persons believe that an intelligent Maker exists. If

this is so, what is his purpose for the earth and man upon it? Is the earth, as many think, a place that will finally be destroyed? Is it merely a testing ground for determining the eternal fate of mankind? If the earth is such a proving ground, how could one explain why even newborn babies die? What have they done to prove what kind of persons they are? Then, too, why would an intelligent Creator rip men and women off the earthly scene long before they could get acquainted with more than just a small part of their vast testing ground? And what reason would there be for His wanting to burn up our beautiful planet, with its delightful variety of life forms?

In ever-increasing numbers people today are not satisfied with the commonly held views as to why humans are here on earth. This may well be your feeling too. But is

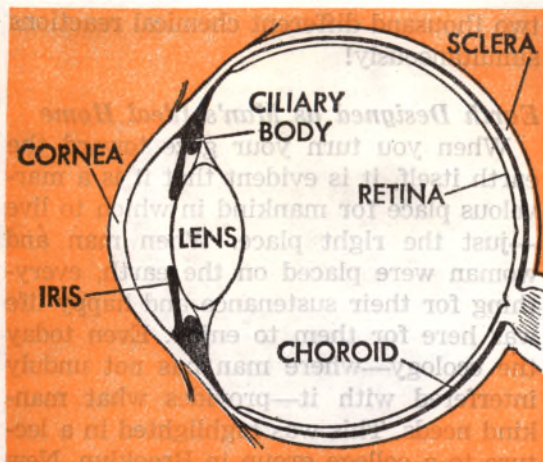
there any way to know for a certainty the real reason for our being here on earth? Or, might it be to our advantage just to forget about this matter and live our life as best we can?

The fact is that wrong viewpoints about these things could be damaging to us. For example, if there is no Maker to whom humans have any accountability, hundreds of millions of persons are being deluded. Their beliefs may be moving them to sacrifice their time, energy and assets in furthering religious goals that will benefit no one. On the other hand, if a Supreme Being exists and this One has a purpose for man, we should want to know what that purpose is. Only then would we be in a position to live in harmony with His purpose. Yes, the view we have as to our reason for being on earth may affect our life both now and in the future.



ALMOST everyone has a desire to accomplish something, unless he has become so frustrated that he has adopted the philosophy, 'Let us eat and drink, for tomorrow we are to die.' But even those who have given themselves up to follow this purposeless pattern have a feeling of unfulfillment and are unhappy. Even though its attainment may not be guaranteed, it is much more satisfying to work toward some goal than to live a completely aimless life.

Moreover, most people not only want a worthwhile purpose in life, but along with that want opportunity to enjoy life in a constructive way. They are interested in the earth and their fellowman and realize that the really profitable purposes are those that contribute to the welfare and happiness of others. One who is awake to the beauty of his surroundings and to the good that one finds in other people is stirred more than ever to work toward a purpose. The efforts made by



The eye is a wonderful, automatic, self-focusing color "camera" that can observe motion without blurring

thousands of persons in medical research and in many scientific fields illustrate that—despite selfishness and imperfections—a great many people are basically interested in the welfare of others.

If humans can have this view, what about the Creator? If you could look on the earth from his vantage point, would you think it logical or satisfying merely to see successive generations come onto the scene, live a few turbulent and frustrating years, and then die off? Would you consider it purposeful for this same scene to be repeated over and over, indefinitely? When God declared, as recorded at Isaiah 45:18: 'I, the Former of the earth, did not create it simply for nothing, but formed it to be inhabited,' did he mean for it to be inhabited by dying generations? Is he going to let the situation continue as described by the Bible writer who observed the vanity of such a condition and said: "A generation goes and a generation comes, and the earth stands forever"? (Eccl. 1:4, *Byington*) Does that seem to be the kind of purpose you would expect of an all-wise Creator? Surely he must have a greater overall purpose in

what is taking place, with a view toward better things to come.

Purpose Evident in Human Body

Take a closer view of the living things on the earth, particularly humankind, earth's highest form of life. You can see that no feature of man's body is without purpose. Look at your hand. Has anyone ever made a substitute as suitable, as dexterous, as beautiful? Think of the sense of touch, the ability to move the fingers to do what you desire. No human production on this earth, from a tiny transistor to a mighty ocean liner, could have been constructed without the manipulation of those God-given fingers.

Consider your eyes—two beautifully formed tiny spherelike motion-picture "cameras" that are perfectly coordinated, and that can take color pictures in three dimensions, with no time needed for development. But the eye is far superior to a camera. For example, it needs no shutter to "freeze" the motion of an object. The eye sees motion without a blur and sorts moving objects from stationary ones. These two living cameras, along with the sight-interpreting section of the brain, are



More complex than a giant factory, one cell of the human body can silently perform one to two thousand chemical reactions simultaneously

formed within the human embryo out of a few minerals, some protein, fat, sugar and water.

A scientific report in the New York Times said of the marvelous brain:

'The constitution of the brain as a physical entity is so complex that it makes any of the giant electronic computers mere child's toys by comparison. Even a single nerve cell of the brain is composed of infinitely more complex parts than the greatest machine ever made by man. Yet the cerebral cortex of the brain, the seat of the higher mental functions, which constitutes only a small part of the total organ, is composed of ten billion individual nerve cells. Each is a complex protoplasmic unit functioning as a living dynamo.'

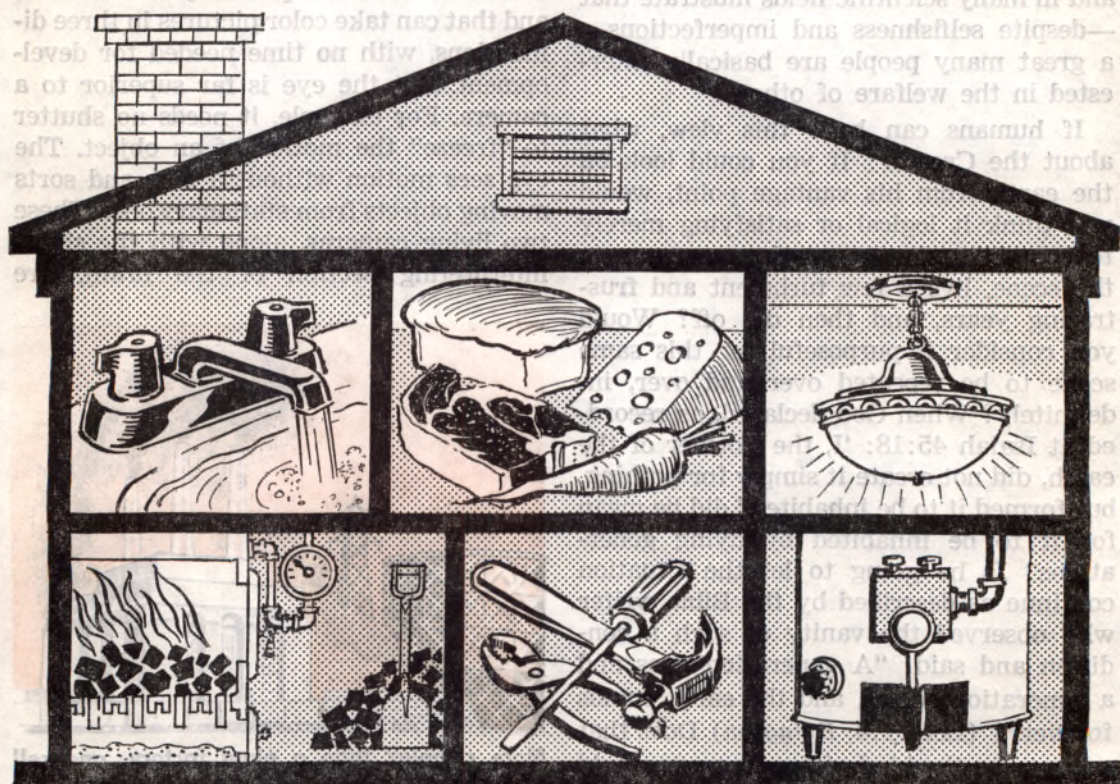
And of the trillion or so cells in the human body, studies have revealed that any one of these cells can perform one to

two thousand different chemical reactions simultaneously!

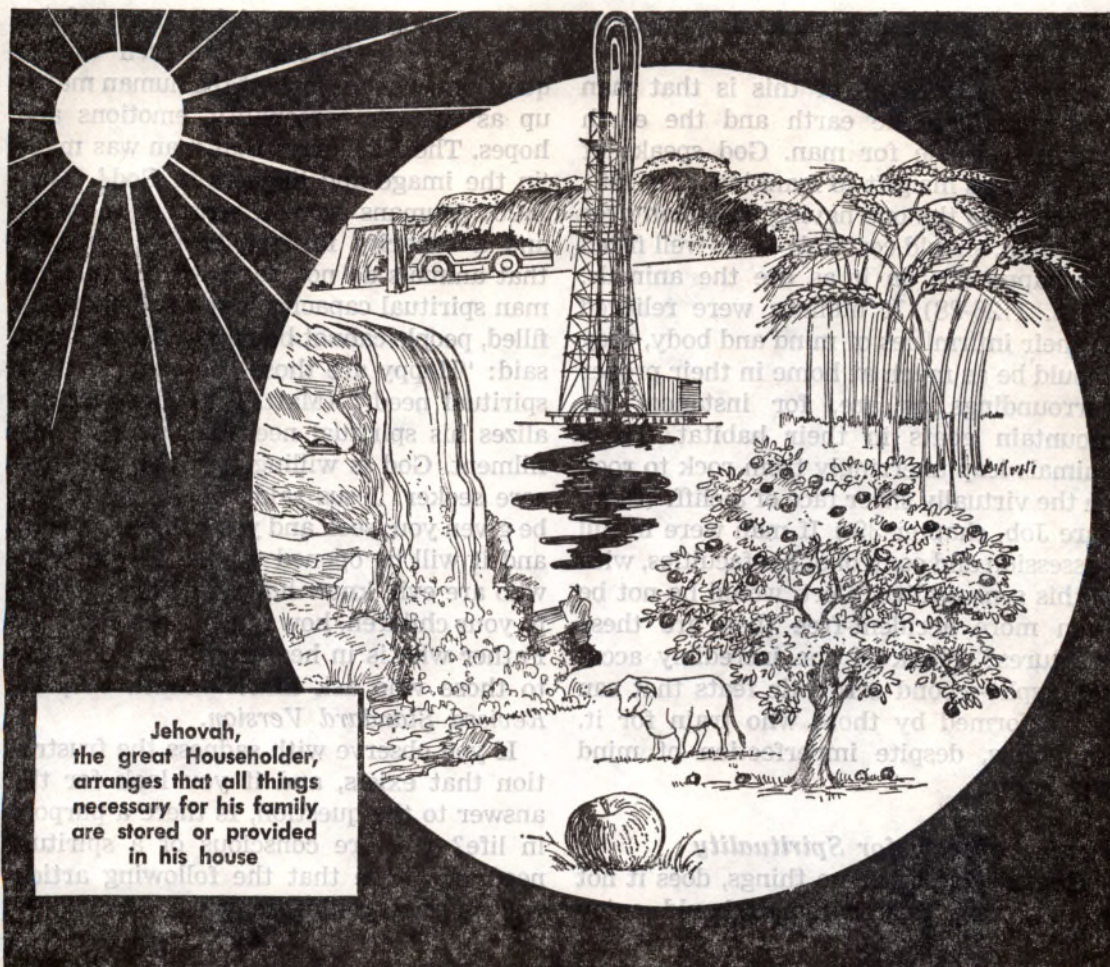
Earth Designed as Man's Ideal Home

When you turn your gaze toward the earth itself, it is evident that it is a marvelous place for mankind in which to live—just the right place. When man and woman were placed on the earth, everything for their sustenance and happy life was here for them to enjoy. Even today the ecology—where man has not unduly interfered with it—provides what mankind needs. This was highlighted in a lecture to a college group in Brooklyn, New York. The speaker said:

'How much like a literal home this earth is designed and equipped! For example, a literal home has a light in the ceiling; the earth does also—the sun. A literal home has



A good householder arranges so that all things necessary for his family are stored or provided in his house



a night light in the hall; the earth does also—the moon. God said that the moon would be a luminary to dominate the night. (Gen. 1:14-18) Its composition is slightly luminescent. It provides a soft glow that does not interfere with sleep.

'A literal home has a plumbing system to convey water to the different rooms; the earth also is equipped with a plumbing system that conveys water by underground pipes or channels everywhere on the earth. Even in the mountains we find sparkling springs. In places in the Sahara desert it is necessary to dig down only a few feet to obtain water.

'In the cellar of a family home there is oil or coal for heating; in the "cellar" deposits of the earth, oil and coal are wait-

ing for man to use also. In the basement of a home one usually sees pieces of copper, iron and other metals to use in repairing and making things. Well, the earth has these also in its "cellar deposits": iron, copper, silver, gold, platinum and others. And there are diamonds, rubies and numberless other gems for the women of this earthly "family" to deck themselves in beauteous array.

'In a home a variety of food is to be found in the pantry. The earth also has a bounteous "pantry" with a host of delicious nutrients: fruits, berries, melons, vegetables, grains and many others for mankind's sustenance.'

Can anyone logically say that all these things are put there aimlessly, or that they happened by chance? When a home is thus

equipped, do we not know that there is a designer?

The beauty of all of this is that man was made for the earth and the earth purposely made for man. God speaks of the earth as his gift to mankind. (Ps. 115: 16) Man, as the one having dominion over the earth, should certainly be as well fitted for happy life on it as are the animals. (Gen. 1:26-28) If humans were relieved of their infirmities of mind and body, they should be as much at home in their proper surroundings as are, for instance, the mountain goats in their habitat. These animals leap unerringly from rock to rock on the virtually sheer face of a cliff. (Compare Job, chapter 39.) If man were in full possession and control of his faculties, with all his senses alive, alert, would he not be even more accident-free than are these creatures? Think of the incredibly accurate, split-second acrobatic feats that can be performed by those who train for it, even now, despite imperfection of mind and body.

Man's Capacity for Spirituality

Considering all these things, does it not seem fitting that humans should enjoy

more than seventy or eighty years of existence? This becomes an even bigger question when we look at the human make-up as regards personality, emotions and hopes. The Bible says that man was made 'in the image and likeness of God.' (Gen. 1:26) Humans have a sense of morality and a capacity for spirituality, qualities that animals do not have. And if this human spiritual capacity is not satisfactorily filled, people cannot be happy. Jesus Christ said: "Happy are those conscious of their spiritual need." (Matt. 5:3) One who realizes his spiritual need will seek its fulfillment. God is willing to satisfy the sincere seeker. Jesus said: "Ask, and it will be given you; seek and you will find; knock, and it will be opened to you. If you then, who are evil, know how to give good gifts to your children, how much more will your Father who is in heaven give good things to those who ask him?"—Matt. 7:7, 11, *Revised Standard Version*.

If you observe with sadness the frustration that exists, and if you look for the answer to the question, Is there a purpose in life? you are conscious of a spiritual need. We hope that the following article will be encouraging to you.

What

MAN'S MAKER

Has In Mind

IT WAS never God's purpose for man to live a few years on earth and then die. The Bible plainly shows that the prospect he put before the first humans was endless life on earth. A "tree of life"

in their delightful parklike home served as a symbol of the Creator's unchangeable guarantee of life to those whom he judged

worthy of partaking of its fruit.—Gen. 2:9; 3:22.

Today no literal “tree of life” exists anywhere on earth. Gone too is the lovely paradise home that the first humans, Adam and Eve, enjoyed in their perfection. Does this mean that God’s purpose for man has changed?

What a person sees today may lead him to think that God has changed his mind about the earth and mankind. But appearances can be deceptive. God’s Word, the Bible, gives us positive assurance that there has been no change in the Creator’s purpose. We read: “God is not a man that he should tell lies, neither a son of mankind that he should feel regret. Has he himself said it and will he not do it, and has he spoken and will he not carry it out?” (Num. 23:19) “I am Jehovah; I have not changed.”—Mal. 3:6.

Actually, the fact that humans have been dying for thousands of years confirms the dependability of what God has said. How so? Because, regarding the consequences of disobedience, Adam was told: “You will positively die.” (Gen. 2:17) Yielding to his wife’s persuasion, Adam violated God’s law. The Creator held true to his word, sentencing Adam to death on that very day. God said: “In the sweat of your face you will eat bread until you return to the ground, for out of it you were taken. For dust you are and to dust you will return.”—Gen. 3:19.

As Adam and his wife were permitted to live for a time and become parents, a dying human family came into existence. Having lost his life rights, Adam could not pass these on as an inheritance to his offspring. That is why the Bible says: “Through one man sin entered into the world and death through sin, and thus death spread to all men because they had all sinned.”—Rom. 5:12.

So, the expression of God’s judgment



Jehovah God made man to live, not to die, and placed the first humans in a delightful parklike home, or paradise

upon Adam has proved true and we are still feeling its effects. Should we not expect, then, that the Almighty’s purpose to have mankind live forever in a paradise earth will also materialize? Most assuredly!

In harmony with his original purpose for man to live and not die, the Bible gives this assurance: “[God] will actually swallow up death forever.” (Isa. 25:8) So, then, there must be a restoration of the human family to the perfection that Adam and Eve once enjoyed.

Basis for Restoration

Many centuries ago the basis for this restoration was laid by God himself. Since Adam, through his disobedience, forfeited the life rights of the human family, the Most High made provision to redeem these. He transferred the life of his foremost Son from the heavens to the womb of a Jewish virgin named Mary. The first-century physician Luke reports what Mary was told just prior to her miraculous conception: "Holy spirit will come upon you, and power of the Most High will overshadow you. For that reason also what is born will be called holy, God's Son." —Luke 1:35.

This one, Jesus Christ, maintained flawless obedience toward his God and Father. So when he gave up his human life rights, he was able to buy back the life rights that Adam lost for all his offspring. Regarding this, the Holy Scriptures tell us: "Through one trespass the result to men of all sorts was condemnation, likewise also through one act of justification the result to men of all sorts is a declaring of them righteous for life. For just as through the disobedience of the one man many were constituted sinners, likewise also through the obedience of the one person many will be constituted righteous." —Rom. 5:18, 19.

The fact that Jesus Christ maintained flawless conduct as a man proved that this was possible for perfect humans. On this basis, God could view as righteous even imperfect persons if they showed the same kind of devotion as did his Son. For, if these devoted persons also had perfection, they, too, would be able to maintain absolutely blameless conduct. Hence, there was a foundation for Jehovah God to bring humankind into unity with himself through his Son.

Why Have So Many Centuries Passed?

But why, centuries later, do we still find ourselves plagued with weaknesses and imperfections? The reason for this is that God has a specific time for acting. Jesus Christ, upon his being resurrected from the dead, told his loyal disciples: "It does not belong to you to get knowledge of the times or seasons which the Father has placed in his own jurisdiction."—Acts 1:7.

We, therefore, need to wait patiently for God's times and seasons, not looking at matters from the human standpoint. In the case of a man who wants to reach a certain goal, he must act within a comparatively short time. On account of a limited life-span, he cannot afford to postpone a matter indefinitely.

The Creator, however, is not in any way limited by time. To him a "thousand years" are "but as yesterday when it is past, and as a [four-hour] watch during the night." (Ps. 90:4) He is from "time indefinite to time indefinite." (Ps. 90:2) He does not have to cope with uncertainties. The future is no blank page to him. The Bible speaks of him as the "One telling from the beginning the finale, and from long ago the things that have not been done." (Isa. 46:10) Jehovah God can, therefore, take into consideration the past, present and future in deciding the best time to act in behalf of humankind. Since he can also resurrect the dead, the fact that his day for restoring mankind to perfection is yet future does not result in lasting hurt to man. That is why the Most High is under no pressure to act before his own due time, the right time.

Is there any way to know just when we might expect deliverance from human weaknesses and imperfections? The Bible shows that this will take place after the present ungodly system is destroyed and replaced with a righteous new order. The "day and hour" for the execution of God's

judgment upon the present system has not been revealed in the Holy Scriptures. (Matt. 24:36-42) But the Bible does tell about the situation that would exist on earth just prior to that event.

We read: "There will be terrible times in the last days. Men will be lovers of self and of money, proud, arrogant, abusive, disobedient to their parents, ungrateful, profane, inhuman, implacable, slanderous, licentious, brutal, hating the good. They will be treacherous, reckless, pompous, lovers of pleasure rather than of God as they make a pretense of religion." (2 Tim. 3:1-5, *New American Bible*) Is it not true that what is here described is making life increasingly hard for people today? Does this not show that God's time to bring these "last days" to an end is very near?

A Grand Purpose to Be Realized

After this system comes to its end, Jehovah God has in mind restoring the human family to perfection through his Son, Jesus Christ, and a body of heavenly rulers, the members of which have been purchased from the earth. Those who will make up this ruling body are men and women who have demonstrated their unswerving loyalty to God and their unself-

ish interest in fellow humans.—Rev. 14:5.

Jesus Christ and his blameless associate rulers will take control of earth's affairs right after the present imperfect system of things is uprooted from the earth. This means that those ruining the earth will themselves come to their ruin or destruction. (Rev. 11:18) Thereafter marvelous changes will be experienced by those surviving the destruction of earth's rulers. They will have the loving attention of Jesus Christ and his associate rulers 'for a thousand years.' (Rev. 20:6) During this time the earth will be transformed into a paradise. All the troubles and suffering of the past will be eliminated. And the dead will be resurrected. The last book of the Bible, Revelation, describes what God will do through his heavenly government:

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

How marvelous indeed is the prospect of witnessing the fulfillment of God's original purpose—to see humankind restored to perfection and this earth transformed into a beautiful paradise home! Is there anything you can do now to share in the certain realization of that purpose?

Seize **THE OPPORTUNITY** *Now!*

IT IS a fine thing for mankind that their Maker is also their loving Provider and Caretaker. Because of this, he did not leave humanity on its own after man's fall into sin and death. He did not show unconcern as though he were "dead" to their hopes, their loves, their vicissitudes.

On the contrary, he manifested the greatest concern by laying a foundation for human recovery by giving his own Son.

And he has progressively moved closer and closer to the realization of his full purpose toward humankind—fullness of life on a beautified earth.

To understand this purpose is to know why we are here on earth. But more importantly, it gives us direction for what we are to do now. We come to realize that it is not merely a matter of looking to the time ahead when life will be more purposeful, but *living now with real purpose*. The apostle speaks absolute truth, therefore, when he says: "Godly devotion is beneficial for all things, as it holds promise of *the life now and that which is to come*." —1 Tim. 4:8.

So that we can devote ourselves to the truthful, sensible, upbuilding things, God stands nearby. He allows himself to be approached for guidance toward a purposeful life. The apostle Paul addressed a group of non-Christians in Athens, among them a number of Greek philosophers who were seeking the reasons for life. He explained to them that God had provided a way for

men to seek him, "if they might grope for him and really find him, although, in fact, he is not far off from each one of us."—Acts 17:24-27.

Can any one of us say that he does not need guidance from someone of higher wisdom and experience? All of humankind are in sad need of it in these serious times. Guidance in a purposeful life brings greater happiness now to us and to our loved ones. Furthermore, it is something to be seized now because it equips us so as to be in line for *the life to come*.

The 'Life to Come'

The 'life to come' for billions of people will actually be the kind of life that God purposed for man at the beginning. He told Adam and Eve: "Be fruitful and become many and fill the earth and subdue it, and have in subjection the fish of the sea and the flying creatures of the heavens and every living creature that is moving upon the earth." (Gen. 1:28) There was no mention of death to this couple except for disobedience. (Gen. 2:17) God's pur-

The many things
earth contains will
forever delight
all mankind



pose was for them to have an uninterrupted existence forever if they obeyed. Certainly obedience to him was no unreasonable requirement from the Maker of the vast universe, who definitely knows what mankind needs for happiness.—Matt. 6:8.

To live forever on earth! That is actually what God says is his purpose for man. This would require first, of course, that the earth remain forever. The psalmist was inspired to write for our comfort: “[God] has founded the earth upon its established places; it will not be made to totter to time indefinite, or forever.” (Ps. 104:5) Repeatedly the Bible speaks of God’s destroying wickedness off the earth and leaving righteous survivors.—Ps. 37:1, 2, 9, 11, 20, 27, 34; 115:16.

The Bible’s last book, Revelation, deals extensively with ‘the life that is to come.’ It tells of God’s determination to “bring to ruin those ruining the earth” and of a great number surviving the final “great tribulation” that will destroy the wicked. (Rev. 11:18; Matt. 24:21) Of ‘the life that is to come’ for the survivors, God’s promise is: “The One seated on the throne will spread his tent [of protection and security] over them. They will hunger no more nor thirst anymore, neither will the sun beat down upon them



Earth is an unfathomable scientific ‘laboratory.’ It has provided many comforts for man now. What will it provide for man’s delight forever in the paradise earth?

nor any scorching heat, because the Lamb [Jesus Christ], who is in the midst of the throne, will shepherd them, and will guide them to fountains of waters of life. And God will wipe out every tear from their eyes.”—Rev. 7:9, 14-17.

The “River of Water of Life”

Of those “waters of life,” the last chapter of Revelation gives more details. Since Jesus said, earlier, “Whoever drinks from the water that I will give him will never get thirsty at all, but the water that I will give him will become in him a fountain of water bubbling up to impart everlasting life,” we see that the “waters of life” are connected with Jesus’ atonement sacrifice for mankind. (John 4:14) Therefore, as we read Revelation’s description we understand that the sum total of all the provisions for mankind’s life through Jesus Christ is represented by the “river of water of life” there depicted. We read:

“And he showed me a river of water of life, clear as crystal, flowing out from the throne of God and of the Lamb down the middle of its broad way [the stream comes through “New Jerusalem,” the heavenly capital, wherein the glorified Jesus Christ and his associate heavenly kings reside]. And on this side of the river and on that side there

were trees of life producing twelve crops of fruit, yielding their fruits each month. And the leaves of the trees were for the curing of the nations."—Rev. 22:1, 2.

The people in that new arrangement of things on earth will regularly receive the curative application of the value of Christ's sacrifice to remove their sins and to heal them of all their sicknesses and imperfections. Sin, which causes death, finally being removed from all of them, "death will be no more." (Rev. 21:4; 1 Cor. 15:26) This assures everlasting life for those who partake of God's provisions. Now is the time for all who hear to seize the opportunity, getting what is now available of the "river of water of life." The invitation is: "Let anyone thirsting come; let anyone that wishes take life's water free."—Rev. 22:17; 2 Cor. 6:1, 2.

Everlasting Life Not Monotonous or Boring

'But,' someone may ask, 'would a person have a more purposeful life in living forever than he can have now? Would he not just experience the same cycle of life—eating, sleeping, working, for endless time? Is it not as purposeful to live as many do now, trying to achieve something for future generations, and then letting these take over?'

To answer such questions, consider just how far people actually succeed in accomplishing a purpose in life today. How many are able to contribute something that is genuinely lasting, that serves to preserve lives or to make living better for others? In reality, circumstances and a limited life-span often thwart such efforts. (Eccl. 2:11, 17-21) But think what a person could do with an unlimited span of



With unity, friendliness, hospitality and generosity on all sides, would life ever be boring?

life! He could continually add to his knowledge and ability. He could enrich his personality. His valuable ability to contribute to human society would not be diminished—it would continually be enhanced. He would not deteriorate into old age. Today many people are saddened by the fact that their productive days are inexorably dwindling and their life nearing its end. That is why the Bible recommends: ‘Remember, now, your Grand Creator in the days of your youth.’—Eccl. 12:1.

Furthermore, with everlasting life, a person, while never ceasing to learn, would never be able to discover everything about this earth and the things in it. The study of this great scientific “laboratory,” which the earth is, will never end. Each discovery will open up countless new “doors” and vistas. And association with our fellowman, who is progressing in the same way, but in other fields of endeavor, will lend delightful variety. Enjoying the talents and personalities of one another will be an endless pleasure.

But far more exhilarating than these things will be continuing to take in knowledge of the unfathomable God and receiving the riches of his love and wisdom. Jesus, who, before coming to earth, had a heavenly existence of unknown duration with God, said of himself: “I live because of the Father,” and, “This means everlasting life, their taking in knowledge of you, the only true God, and of the one whom you sent forth, Jesus Christ.”—John 6:57; 17:3.

“Fill the Earth”

Would the end of death mean that the earth would eventually become intolerably overpopulated? No. Having a *purpose* toward the earth, the Creator said to the original pair: “Be fruitful and become many and *fill* the earth.” (Gen. 1:28) Certainly a wise Creator knows what the

IN THE NEXT ISSUE

- **Earthquake Devastates Guatemala—On-the-Scene Report.**
- **Singing, a Way of Life for Me.**
- **Canadian Courts Block Discrimination.**

earth will support and would allow it to be filled only to the extent that life would be comfortable, not overfilled. Just as he is able to create, causing his creations to work in harmony for the general well-being, so he can carry out this stated purpose without hurt or sorrow to any.

If you seize the opportunity to learn about God’s purpose, you will experience God’s promise of “the life now.” You will be exhilarated by progressive understanding of the pattern of his marvelous purpose in its care for every detail that will make mankind happy. You will see that all doubts that you might have had as to why things are as they are today, and about the wisdom of God’s purposes, were because of human inability and lack of information. To those who challenged the wisdom of God’s dealings in times of old, he said: “Would you dare question me concerning my children, or instruct me in my handiwork? I alone, I made the earth and created man upon it.”—Isa. 45: 11, 12, *NE*.

The Bible, revealing God’s purpose, can be an open book to you. And, more than a good life now, it also opens up the wonderful prospect of a reunion with your loved ones, in a righteous earth where death will be no more. (Rev. 21:3, 4) Seize the opportunity *now*. Jehovah’s Witnesses will be happy to help you to study the Bible in your own home, free of charge.

THEIR HOME IS THEIR WORKSHOP

By "Awake!" correspondent in Japan

AS A missionary, I have enjoyed getting acquainted with the people in Japan and their way of life. Regularly I visit their homes to share with them the good news found in the Bible, but they, too, have shared interesting things with me. Especially have I found it fascinating to learn about their "cottage industries."

Join me in meeting some of these people and listen as they explain what they do.

A Family Affair

Here's a home where I met a young man who works with his family to make *washi*. Do you say that you never heard of it? Well, he explained it like this: "*Washi* is sometimes called 'rice paper,' although it has nothing to do with rice."

How is it made? "Our work begins with the paper mulberry tree," he said. "We treat the fibers from the inner bark and clean them thoroughly. Then a slimy liquid from the root of the hibiscus is added. The long fibers of the paper mulberry tree and the liquid from the hibiscus distinguish *washi* from other papers. The slimy substance ensures an even distribution of the fibers. It is a thrill to see the finished product. Just look at these beautiful designs that have been painted onto our pa-

per. Appreciation for our work extends as far as West Germany and America."

When I asked how they got started in the business, he explained: "Sixty years ago my great-grandfather, a schoolteacher, became sick. Unable to continue his regular employment, he considered work that he could do at home. For over a thousand years here in the town of Ogawa the major cottage industry has been the making of *washi*. My great-grandfather learned the art and began making it in our house. We still do it. I work with my parents, two uncles and aunts."

What he told me about hours of work made me wonder how he personally felt about the family business. But he assured me: "I love what I do. That is why I do not mind working a twelve-hour day. I want the art of papermaking to be preserved. It is an exciting challenge. Other teen-agers say the same but they are not all prepared to do the work. Many think it is laborious. But if they tried it, they might find it interesting."

Husbands and Wives Work Together

When visiting other homes, I have found that it is not unusual for a husband and wife to be at home working together. They

prefer that over having the husband go to work and leave his wife at home alone.

A couple that had been in business together for twenty years explained their enterprise: "It was a friend of ours who suggested that we might like to make book covers. Actually, what we do is only one stage of the work. We have thirty-foot lengths of cloth delivered to our home and we stick paper onto the back of it. About thirty minutes are needed to complete one. We do it together. My husband, who is sixty-five years old, is not in good health, and I am sixty. We work at our own pace, and that suits us. We are very contented."

Another husband and wife told me that they make bamboo lampshades. Providing details, the man said: "Working steadily, we can make five big shades in a week, each one weighing three kilos [6.6 pounds]. I begin by sawing bamboo poles into desired lengths; then I shave off the knots. Standing a length of bamboo on end, I split it down the center with a knife, and I keep on slicing until I get the desired thickness. Some strips are as thin and as pliable as string—just right for weaving. Using a plastic disk with a small hole in the center, I begin weaving around the circumference. Gradually it comes to look like a huge woven wheel. To keep the bamboo pliable, I apply water. When it is the required size, I shape the wheel into a globe or dome. Finally it is coated with a mixture of glue and water to seal the shape. The work takes time, but we think it is worth it. We felt honored to have our lampshades hung throughout a restaurant at the world exposition in Canada."

From a farmer and his wife I also learned things about the silk industry. He pointed to bushes in the field and asked: "Do you know what those bushes are? They are mulberry bushes, and any farmer who grows them will be doing the same as we do. Those bushes are the food of the

silkworm. While the silkworm is still a baby we treat him like one, chopping up the tender leaves for him twice a day. Until they are twenty-five days old we pile the branches onto their trays for food. We do this in our home."

"In your home?" I gasped. "Don't worry," he said. "They don't wander around like cats and dogs. The silkworm likes his food too much ever to leave the tray. When I was a boy, we had trays of silkworms piled high in every available space. The noise of their munching would lull us to sleep at night. I didn't mind, but my wife has persuaded me to keep our sleeping quarters separate from the silkworms, haven't you, dear?"

"That's right," she replied. "In those



'After brushing the wool, we twirl the fluffy pile through our fingers and guide the thread-to-be to the spinning wheel'

days we almost had to move out so the silkworms could move in. But our home is bigger now. As part of my work, I do the weaving. We have a hundred-year-old loom that just fits into a six-by-nine-foot room. If I work steadily for a day, I can complete one roll. Some folks who have not been doing it so long take two or three days to produce the same amount."

Work for Women

In certain homes, I soon realized, it is the women who operate the business. When making calls one day in Morioka, I met a lady who volunteered this information: "We, too, are involved in a cottage industry, but ours is for females only. About forty years ago in Morioka, widows got together and began home spinning. There were a lot of sheep in Morioka. Spinning and weaving were an obvious choice. But since Morioka's breed of sheep produced coarse wool, we began to import wool from Wales in the British Isles."

At my request, she kindly explained the



The wool is carefully divided into three sections and used as follows: (1) For women's clothing. (2) For men's clothing. (3) For carpets

steps involved in producing cloth. "It is not difficult," she said. "First, we sort the wool into three categories—for women's wear, for men's wear and for carpetmaking. After the wool gets a good wash, we dye it. Remaining dirt is then picked out, and the wool is brushed. We twirl the fluffy pile through our fingers and guide the thread-to-be to the spinning wheel. By then we are nearly ready to weave, but first the thread has to be put into hot water for fifteen minutes and then be wound onto a reel. After the weaving is completed, we remove the bumps and rectify any bad spots. Then, with rubber boots on, we tread the cloth in water for an hour to an hour and a half. More dirt comes out. But now the cloth can be hung out to dry and then be rolled up in the form that you see in fabric shops."

I was amazed to learn that all these steps were performed at home. The woman acknowledged that other work might yield more financially. But she explained: "In this way our time is our own, and our doing this work has meant that we can be at home with our children and work at the same time."

Fathers and Sons in Business Together

It is not always the case, but many sons have taken up the work taught them by their fathers. For example, a certain man told me that he and his brother had been working with their father for forty years. They make scissors—approximately five hundred pairs a month. These are for hospitals, for garden and for home use. I asked him how these differed from ones that are mass-produced, and he replied: "We take care in making every pair. The blades meet perfectly. Although they cost a little more, they will give good service for years." Those are certainly qualities that are not to be despised.

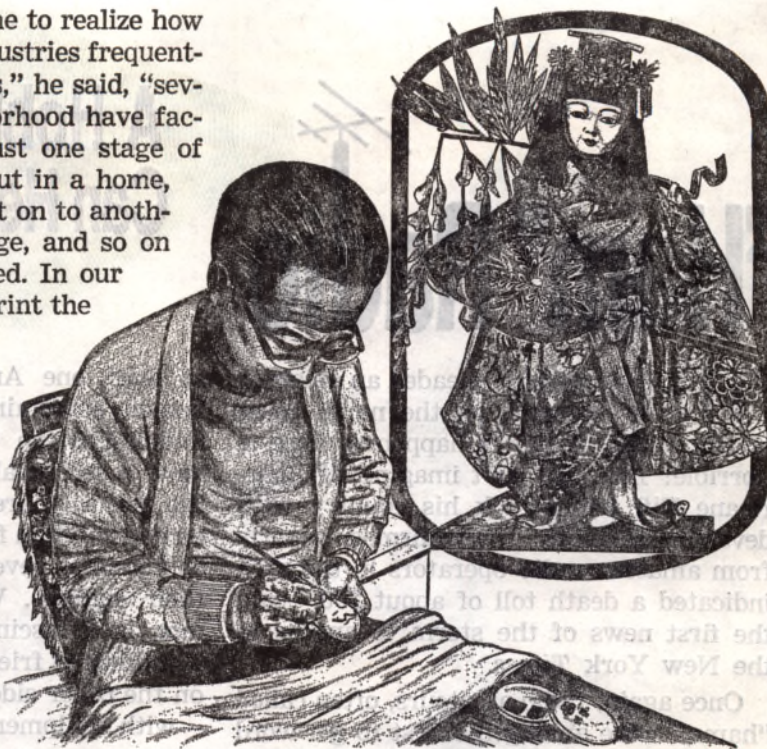
A man who, with his sons, is in the

printing business helped me to realize how specialized the cottage industries frequently are. "For making books," he said, "several homes in my neighborhood have factories built into them. Just one stage of the operation is carried out in a home, and then the article is sent on to another home for the next stage, and so on until the book is completed. In our home we do nothing but print the pages."

Similar specialization is found in the manufacturing of the classical Japanese ornamental dolls. A man in Iwatsuki showed me around his home shop, where they make just the heads for the dolls. He described how they put the eyes onto the casts, paint the face and stick on the hair. "It sounds simple," he remarked, "but it takes ten years before you can produce perfect heads. The delicate painting of the faces takes time and a steady hand."

In this home three generations work together. I was introduced to the eighty-one-year-old father, still doing his share of the work. His son shared the room with him. And in another room the son of my host did the same work, but caring for his own orders.

"When I was a boy," the man reminisced, "it seemed the most natural thing in the world to follow in my father's footsteps, and I was happy to do so. But education has led some of our children to look down on cottage industry. To them, wearing a smart suit, carrying a briefcase and riding a train to work is 'the thing.' The desire to be like other young people is strong. But I am pleased that my boy is



The delicate painting of the dolls' faces takes time and a steady hand

continuing our cottage industry and so has become a true member of the family. With skilled work like ours, he can enjoy a comfortable living without having to work unreasonably long hours."

It is obvious that there are advantages in the cottage industries. Some kinds require longer hours than others. But all offer the opportunity to set one's own hours of work.

In taking you on this tour, I have touched only the surface. The variety of home workshops is almost unlimited. Each kind of thing that is made has its own fascinating story.

Cottage industry thrives when people are willing to work. At the same time it can contribute to a healthy spirit of unity in the family. Does it appeal to you?



"Ham" Radio

A Hobby That Can Help Others

"**H**ELP us, please," pleaded an amateur radio operator on the north coast of Honduras. "What is happening here is horrible! You just can't imagine it!" Hurricane Fifi had struck his country with devastating fury. "Unconfirmed reports from amateur radio operators in the area indicated a death toll of about 200," said the first news of the storm to appear in the *New York Times*.

Once again, radio amateurs, often called "hams," were among the first to get word to the outside world. The unfolding story of that 1974 tragedy rocked the world for days thereafter. And "ham" operators played their usual helpful role by transmitting information and communicating word of survivors to anxious loved ones.

Thousands of cases on record attest to the valuable help of radio "hams" in times of emergency or national disaster, when their equipment may have been the only remaining way to contact the outside world. They also frequently assist in medical emergencies. Recently about ten different "hams" in at least three countries were involved in tracing down the location of an uncommon antibiotic and arranging for its delivery in an effort to save the life of a little Ecuadorian girl.

Who Are They?

Among the more than 750,000 persons world wide who find "ham" radio to be a fascinating and educational hobby are

at least one American senator, a well-known entertainer, an astronaut and a middle-Eastern king. Some "hams" do have a technical background. But by far the majority are just average men, women and children from all walks of life, some as young as seven years old and others in their eighties. What they have in common is a fascination for communication—talking to friends or complete strangers on the other side of town, or of the world—with equipment that they alone control.

One enthusiast likened "ham" radio to "having access to the world's largest party line. You never know who might be next to 'pick up the phone,' where he will be, or what he will say." Amateurs can also learn much about how people live in far-away places. Most "ham" operators world wide know some English.

Many "hams" develop friendships all over the world and speak to one another regularly by radio though they have never met personally. One tells of regularly contacting 'a young lady down in Houston, and then an old-timer in New York whose wife had recently died. He no longer sleeps much, but stays at his equipment day and night. Radio "hams" are about the only friends he's got now.' The generally warm, friendly atmosphere and spirit of helpfulness that prevails on the air can thus be a real boon to elderly and handicapped "hams" as they visit the world without ever leaving their chairs.

How It Started

Back in 1895, a man named Marconi first proved that messages could be sent by what came to be called "wireless" transmission. It was not long before enthusiastic, scientifically minded persons learned to build simple, homemade transmitters and receivers and started communicating with one another. Thus, at about the turn of the century, amateur radio got its start.

Soon numerous government and commercial stations were on the air, as well as hundreds of amateurs. Regulation became necessary to prevent interference between operators. Hence, the Federal Communications Commission (FCC) in the U.S., and the governments of most other countries, now require that every amateur station and operator be licensed. The radio frequency bands that they can use are also specifically designated.

FCC licenses also assign "call letters" to all "ham" stations, such as "WA2RIK." The prefix "W" or "K" indicates an American station, while "J" is Japan, "F" is France, and so on. The number "2" represents one of ten amateur "call areas" in the U.S., taking in New York and New Jersey. So a "ham" operator knows just about where he has reached when he hears the call letters of a sending station.

Beginners can usually obtain a license without a great deal of technical knowledge. In the U.S., for example, the FCC requires only that a beginner learn to send Morse Code at five words per minute and pass a very simple written quiz. A Novice Class license is issued that restricts the new operator to sending only code until he gains enough experience to qualify for a more advanced license that allows voice transmission.

Equipment

Is expensive or elaborate equipment required to enjoy amateur radio? Well, origi-

nally, all amateur equipment was "homebrewed," built by the hobbyist, and much equipment today is still built from kits. But it is possible for a novice to purchase new assembled code-only equipment for under \$100.

Regardless of how good a receiver and transmitter may be, though, a good antenna is generally far more important. Some operators have talked to stations all over the world with a good antenna and no more than ten watts' output from the transmitter—hardly enough to make a 60-watt house lamp glimmer! In contrast, many commercial radio stations operate in the 5,000- to 50,000-watt range.

Communication also depends heavily on atmospheric conditions. Because radio waves "bounce" from the ionosphere (30 to 250 miles [48 to 402 kilometers] above the earth), they may travel much farther than a direct signal by overcoming the curvature of the earth in this way. Atmospheric changes at different times of the day, sunspot activity and even the aurora borealis can affect the quality of transmission and reception.

Operating a Station

But now you are seated at a desk with a receiver and transmitter in front of you—what do you do? If you just want to talk to someone with no particular location in mind, tune up your equipment to a commonly used amateur frequency. Now say "CQ, CQ" several times into the microphone, followed by your station call letters, and then listen. "CQ" is one of numerous abbreviations that "hams" use. It means that the caller would like to talk to someone. After calling three or four times, you may hear another station respond, and learn with interest just how far your signal has reached—1,000 or 2,000 miles (1,609 or 3,218 kilometers), even another country.

On the other hand, you may want to get

a message through to someone specific—say a friend in Peru. First, you would turn your antenna in that direction. Then tune your receiver across the selected amateur band to see if stations in that area seem to be coming through. If not, you may have to try at another time of the day. But if you hear call letter prefixes from the area you want to reach, then you can call "CQ" two or three times, mentioning the desired location, such as "CQ Lima."

If you still get no response, you can also tune to the frequency of one of the international amateur "networks" that operate at various times of the day. These are a "ham" rendezvous arrangement to help handle radio traffic to all points, particularly out of the country. As a service, an amateur voluntarily operates as a control station, allowing any "ham" to check in with him for the purpose of getting a message through.

Helpful Features

Many amateurs have a "phone patch," a device that can legally tie in their radio with a local telephone system. This often makes it possible to talk to friends and loved ones in distant lands though such ones are not themselves "ham" operators. Missionaries far from home are often con-

tacted in this way for about the cost of a local telephone call.

When Hurricane Fifi struck Honduras, the worth of this system was illustrated. A "ham" operator, who also works at the Watchtower Society's headquarters in Brooklyn, New York, was able to make contact with the Society's Honduran branch office through a Tegucigalpa amateur's phone patch. Thus, within just a day or two of the disaster, information on relief efforts could be exchanged and it was quickly learned that there were no known deaths among the approximately 2,500 Honduran Jehovah's Witnesses.

Often other practical information can be obtained very quickly through "ham" radio communication. One Sunday evening a group of "hams" were conversing on the air when one in Colombia, South America, said he needed information on the design of column-type loudspeakers for a coming Christian convention. One of the amateurs in Texas telephoned a person experienced in that field and the information was immediately transmitted to Colombia.

Among the many "ham" radio networks world wide, there are now nearly 600 Jehovah's Witnesses in over 30 countries and islands who regularly rendezvous to talk, exchange experiences and relay mes-

"JW RENDEZVOUS" "HAM" NETWORK SCHEDULE

	Eastern	Central	Mountain	Pacific	Greenwich Mean Time	Frequency
VOICE						
Sun., Mon., Wed.	8:00 pm	7:00 pm	6:00 pm	5:00 pm	01:00	14.300 Mhz
Sat.	4:00 pm	3:00 pm	2:00 pm	1:00 pm	21:00	21.375 Mhz
Mon. to Fri.	7:30 am	6:30 am			12:30	7.245 Mhz
Daily	6:00 am	5:00 am			11:00	3.965 Mhz
Daily			6:00 pm	5:00 pm	01:00	3.977 Mhz
Mon. (Europe-English)					18:00	3.660 Mhz
Mon. (Europe-English/German)					20:00	3.745 Mhz
CODE						
Sun., Mon., Wed.	9:00 pm	8:00 pm	7:00 pm	6:00 pm	02:00	7.110 Mhz*
Sun., Mon., Wed.	9:30 pm	8:30 pm	7:30 pm	6:30 pm	02:30	3.710 Mhz*
Sat.	4:30 pm	3:30 pm	2:30 pm	1:30 pm	21:30	21.119 Mhz*

* Novice frequencies

sages to other countries. The accompanying chart shows scheduled times and frequencies most often used by this "JW rendezvous" group.

Thus, when used in a balanced way so that it does not interfere with other obli-

gations, amateur radio can indeed be a rewarding hobby that brings both pleasure and knowledge. Furthermore, it can be a real source of help in emergencies and to those who wish to talk with loved ones in faraway places.—Contributed.

BATS are ugly creatures that live in dark, eerie caves. Their favorite haunts are cemeteries, where they fly among the tombstones on foggy nights. They carry bedbugs. What's more, they're blind, filthy and a menace to man.'

In a nutshell, that's what many people think of us. But as an old bat, let me say something in our defense. Incidentally, calling me "old" can mean that I am getting on to being thirteen years of age, though I know of bats that have lived to be more than twenty.

Oh, yes! That's me—that big brown bat over there on the next page. I'm resting on a glass with a bright light underneath so that you can see everything. Take a good look while I tell you about myself and my relatives.

Getting Better Acquainted

We are mammals of the order Chiroptera. There are several hundred species of us throughout the temperate and tropical regions of the earth; so you won't be able to meet all the relatives.

Basically, we are small, winged, furry creatures whose body resembles that of a mouse. In fact, the Germans call the bat *Fledermaus*, meaning "flying mouse."

Among mammals, we alone can fly. "Oh,

Meet THE BAT

—The Only Flying Mammal

is that right?" you ask. "What about flying squirrels?" Well, all they can do is *glide*. We're different. As Volume I of *Mammals of the World* puts it: "Bats are the only mammals that fly, although several gliding mammals are referred to as 'flying.'"

Depending on the species, my relative's head and face may resemble a bear, a dog, or maybe a fox. One is called the horse-headed bat, for obvious reasons. In some cases, the nose has a growth on it—perhaps one looking like a leaf. Sensory nerve endings are found in those growths.

Bats vary greatly, and I can just imagine someone asking, 'Who's the fairest of them all?' Well, we're not all ugly, that's certain. But the wrinkle-faced bat will never win a beauty contest. About the best word for its facial features is *grotesque*.

What about color? Many of us are brown, gray or black. But there are variations. For instance, the ghost bat is white, maybe with some gray mixed in. There is a fruit-eating bat with a blackish head and dark-brown wings with yellow spots. Of course, these are just examples.

We've been known to fool people. At

least I don't think they always know what we are. Consider one small bat of tropical America and Trinidad. It was found roosting at night on the underside of a bridge, in company with cockroaches 51 millimeters (2 inches) long. Of these bats, Walter W. Dalquest wrote: "The resemblance to a cockroach was amazing. The apparent 'legs' were the tips of the wings, turned out and back from the body at a 30° angle. . . . It was completely impossible, at a range of 20 feet [6 meters], to tell cockroaches from bats, except that I did not see red-gleaming eyes of the cockroaches."

Now, if you'll take another look at my picture, I'll tell you something about . . .

How We Fly

Actually, our wings consist of thin skin. It stretches from our front limbs along each side of our bodies to our hind legs. The skin or membrane runs between our five digits, that is, the four fingers and thumb.

We usually roost by hanging upside-down by our feet. Generally, we 'take off' merely by dropping from a roosting place. We just spread our wings and we're airborne. But we have no trouble 'taking off' from a level place. All we do is jump into the air, using both our legs and arms in the launching operation.

When it comes to wingspan, there certainly are big differences among us. For instance, the little brown bat, with a body under four inches (10 centimeters) long, can spread its wings to fourteen inches (35.5 centimeters). However, the prizewinner among us is the "flying fox," so named for its looks. These dark-brown bats that inhabit most of the tropics, other than South America, have a wingspread that may exceed five feet (1.5 meters)!

To turn in flight, or to stop, the little brown bat moves its tail downward, making it act like a brake. The lump-nosed bat flies slowly, but it can also hover over something of interest.

Where We Live

Now, a word about living in dark, eerie caves. I must admit that millions of us roost in deep, pitch-black caverns. But did you know that some of us roost in trees, various buildings, ancient temples—yes, and in tombs, too? Why, a number reside in certain Egyptian pyramids! Others take over vacant bird nests and animal burrows. We also live in bell towers and church steeples. Eden Phillpotts once wrote: "His father's sister had bats in the belfry and was put away." (*Peacock House*) You know, of course, that is a writer's humorous way of saying she was crazy. Well, we're responsible for that



saying because bats sometimes do roost up there with the bells in those towers.

What We Eat

Now let me tell you how we bats can be grouped, not by scientific names, but by our eating habits and physiology. Insect eaters are the most numerous. Generally, they catch their prey in flight.

Fruit eaters are tropical bats mostly dependent upon wild fruit, though they are known to cause great damage to orchards.

Some of our number are small flower feeders with long tongues. Pollen and nectar are their fare. Lizards, frogs, small mammals and birds are on the menu of moderate-sized carnivorous bats, although they also eat other things. Then there are the fish eaters. Their powerful feet have hooked claws capable of snatching prey near the surface of the water.

But I've left out someone who has given us a bad name, that is,

The Villainous Vampire

For quite some time now fictitious tales have been circulating about dead people who supposedly rise from their sepulchers at night, transform themselves into bats, and suck the blood of hapless humans. You know the old vampire story. Well, mainly in the tropical and subtropical regions of America there are members of my "family" known as vampire bats. They do feed on blood, sometimes that of sleeping humans.

The vampire bat has razor-sharp teeth. In fact, they're so sharp that the bite is just about painless and the sleeping animal or human rarely is awakened by it. Maybe for some twenty minutes or so this bat gorges itself, taking in so much blood that its little body becomes spherical before the meal is over.

Actually, the amount of blood lapped up (not sucked) is not so great as to endanger humans. But there is another peril. Vampire bats may have rabies. So, left unchecked, their bites can result in hydrophobia and death. Vampire bats also transmit other diseases, such as murrina, which affects livestock. These little bats are dangerous, too, because their bites can cause secondary infection.

Always Harmful?

Does this mean that we're all harmful villains? No. Some of us serve a useful purpose in helping to control the insect population. Others unwittingly carry pollen from flower to flower. Then, too, bat manure, or guano—plentiful on the floors of bat caves—can be used as fertilizer. Did you know that for two decades guano for fertilizer was acquired in commercial amounts from the noted Carlsbad Caverns in New Mexico? That's right.

Why, people have considered us so useful that you might say we've been "drafted." During the American Civil War, from guano the Confederate Army got niter (sodium nitrate) for gunpowder. For that matter, while World War II was raging, there was some effort made to use certain bats to carry little incendiary bombs. I'm certainly happy that idea was abandoned!

Oh! Another thing. In some places, like northern India, those bats called "flying foxes" are *eaten*. People say their meat resembles that of chicken. But I surely hope this idea of humans eating us doesn't spread. We have enough trouble trying to get away from snakes, birds of prey and other creatures (even some bats) that think we taste good. Incidentally, people under the Mosaic law were not supposed to eat us.—Lev. 11:13-19.

Now, what about the idea that bats are filthy? Well, just listen to what was said by Ernest P. Walker, onetime assistant director of the United States National Zoological Park, Washington, D.C. He remarked: "Bats are by no means unclean. They're clean as cats—they groom themselves every morning and after each meal." In grooming, we use our tongue and toes. We just reach up with one of our hind limbs and scratch the back, face and top of the head.

Some people go around saying we carry bedbugs. Occasionally, parasites, yes. But not bedbugs, if that's any comfort to you!

We're Really Unique!

Let me tell you a few things that are sort of special about us. Some of us hibernate. Listen to what James Poling said: "The bat is warm-blooded while active but cold-blooded while slumbering. It is able to go into hibernation more quickly and easily than other mammals—which is why it can so readily be put in the refrigerator. [Some of us are kept there in research laboratories.] It just drops its body temperature and falls asleep; the heart slows from 180 beats a minute to three, respiration drops from eight breaths a second to eight per minute. While the bat has some accumulated fat—as it ordinarily has in early fall before winter hibernation—it can live for months in cold storage, unfed and unattended, the 'motor idling,' while waiting its turn to come under laboratory scrutiny."—*Marvels & Mysteries of Our Animal World*.

Those of us who do not hibernate in caves or elsewhere during the wintertime migrate to places where we can find food. Besides, some of us think that it's a good idea to spend the winter months in a warmer climate.

Say, did you know that some of our pregnant females get together in maternity colonies? Noctule bats are a good example of this. Sometimes as many as four hundred of their pregnant females get together and set up "maternity wards" in buildings or trees. Furthermore, some female bats evidently store male sperm. In many cases, we mate in the fall and hibernate during the winter, but our females don't ovulate until the next spring, permitting fertilization to take place at that time. Isn't that something?

Our Echolocating System

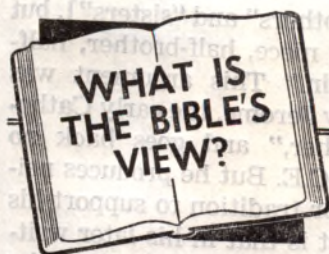
There are people who use the expression "as blind as a bat." But we're not blind and some of us see very well. Anyhow, we have a very special way of getting around, one that baffles men of science. It's called "echolocation," and this is how it works:

As we fly about, we emit squeaks, chirps, clicks, buzzes and the like through our mouths or noses. Since these sounds range from 25,000 to 70,000 vibrations a second, you humans—with an auditory range up to only about 30,000 vibrations—can't hear most of the sounds. But, you know, we don't hear our own sounds either, because when they are sent out our ear muscles contract, momentarily 'turning off the sound.' What we do hear is the echo that bounces off any object that happens to be in our path. In that way, even in total darkness, we can maneuver so as to avoid obstacles.

With all this squeaking, buzzing, and so forth, how do we avoid collisions with one another when many of us flock together? "It is possible," wrote Thomas R. Henry, "that each animal has its individual sound pattern and is guided only by its own echoes. Otherwise, it would seem, there would be complete confusion from the echoes of several hundred bats moving in a flock."

Why not take matters a little farther? How do insect-eating bats tell the difference between echoes bouncing off obstacles and those glancing off potential meals? As yet, you folks don't know, and I'm not saying.

Now, what's the purpose of all this talking? Well, I just wanted to correct some misconceptions about myself and my fellow fliers. Another thing: I really wanted to impress you with our unique abilities. Of course, we came by them naturally. So, the credit really has to go to the Creator of the only flying mammal.



Did Jesus Have Brothers and Sisters?

AMONG the truths that are plainly stated in the Christian Greek Scriptures is that Jesus Christ, when on earth, was the Son of God. In so many words he himself confessed to that fact to his opposers. (John 10:36) He also fully concurred with Peter's confession: "You are the Christ, the Son of the living God." —Matt. 16:16, 17.

Further, those Scriptures clearly testify that Jesus was born of a virgin, Mary. Thus the apostle Matthew tells that before Joseph and Mary were united in marriage "she was found with child through the power of the Holy Spirit." Matthew comments that this was in fulfillment of the prophecy that "the virgin shall be with child and give birth to a son." To the same import is Luke's testimony that the angel Gabriel appeared to the virgin Mary and told her that she would conceive and give birth to a son by power of the holy spirit. —Matt. 1:18-23; Luke 1:30-35, *New American Bible*.

There was compelling reason for Jesus to be born

of a virgin. Had his mother been married and had she had intercourse with Joseph before she conceived by holy spirit, the question might well have been raised as to whose son Jesus was—God's or Joseph's. Besides, even as the high priest in Israel could marry only a virgin, so it was fitting that God use a virgin to bring forth his Son.

But was it necessary for Mary to remain a virgin after she gave birth to Jesus, and did she? In other words, was Jesus her only son or did she additionally have children by Joseph? Did Jesus have brothers and sisters—strictly speaking, half brothers and half sisters? The Scriptures give no reason why Mary should have remained a virgin. Having other children would have had no effect on Jesus. But did she or did she not bear other children?

No, say Roman Catholic theologians. A footnote on Mark 6:1-6 (NA) states: "The question about the *brothers* of Jesus and his *sisters* (v 3) cannot easily be decided on linguistic grounds. . . . The question of meaning here would not have arisen but for the faith of the church in Mary's perpetual virginity."—Italics added.

However, it is very difficult to find any basis in the Scriptures to support Mary's "perpetual virginity." For example, Matthew tells that Joseph "had no relations with her at any time *before* she bore a son, whom he named Jesus." While not explicitly stating that she did have relations with Joseph *after* she bore Jesus, certainly that is implied by Matthew's words. And the same can be said about Luke's words that Mary "gave birth to her *first-born* son."—Matt. 1:25; Luke 2:7, NA.

That she had other children besides Jesus is clear from the questions asked by Jesus' townfolk who were well acquainted with his family: "Where did he get all this? What kind of wisdom is he endowed with? . . . Is this not the carpenter, the son of Mary, a brother of James and Joses and Judas and Simon? Are not his sisters our neighbors here?"—Mark 6:2, 3, NA.

That Jesus had natural (half) brothers is also indicated by the fact that on one occasion he was told that "your mother and your brothers are standing out there and they wish to speak to you." We further read that

"not even his brothers had much confidence in him."—Matt. 12:47; John 7:5, NA.

Moreover, after Jesus' death and resurrection, we read that among those present in the upper room in Jerusalem were, in addition to the eleven apostles, others, including "Mary the mother of Jesus, and his brothers." It is therefore most likely that they were also present in the upper room when God's holy spirit was poured out upon the one hundred and twenty disciples. (Acts 1:13-15; 2:1-4, NA) And, years later, the apostle Paul mentions the "Lord's brothers."—1 Cor. 9:5.

That Mary had other children also seems indicated by the incident that occurred when Jesus was twelve years old and Joseph took his family to Jerusalem for the festival. On the way back they had traveled a whole day before Mary noticed that Jesus was not with them. Had Jesus been her only child (and miraculously conceived at that), could we imagine her maternal instincts being so dormant that she would have started out without him and not missed him for a whole day? But if by this time she had six or more children by Joseph, we can imagine her having been so busy that she might not have missed Jesus for a whole day.—Luke 2:41-50.

True, the question might be asked, If Mary had other children, why did Jesus entrust his mother to his apostle John instead of to her other children? For one thing, his other brothers may not have been at the site of his impalement, they apparently not yet having become believers. Also, of his disciples, John was closest to Jesus, and had a spiritual relationship with him that exceeded any natural relationship.—John 19:26, 27.

Arguing against all this testimony, Catholic theologians state: "Greek-speaking Semites used the terms *adelphos* and *adelphē*, not only in the ordinary sense

[as meaning "brothers" and "sisters"], but also for nephew, niece, half-brother, half-sister, and cousin." This argument was first presented by Jerome, the early Catholic Church "father," and goes back no earlier than 383 C.E. But he produces neither Scripture nor tradition to support his position. The fact is that in his later writings he expressed misgivings as to the soundness of his theory that, when the Scriptures spoke of the "brothers" of Jesus, "cousins" were meant.—*St. Paul's Epistle to the Galatians*, Lightfoot.

The fact is that, had others than brothers or sisters been involved, Bible characters and Bible writers would have used the Greek word for "relatives," namely, *syggenon*. Thus Jesus said: "A prophet is not unhonored except in his home territory and among his relatives and in his own house." Clearly, here Jesus makes a distinction between "relatives" and those of one's own house.—Mark 6:4.

Jesus made the same distinction when he said: "When you spread a dinner or evening meal, do not call your friends or *your brothers or your relatives* or rich neighbors."—Luke 14:12; 21:16.

Why has the Catholic Church made the matter of Mary's being a virgin perpetually a teaching of the Church though it is without any support in tradition or Scripture? No doubt because of the sanctity that virginity is supposed to impart. But, according to the Bible, virginity is only a virtue among single persons. The apostle Paul tells married people not to deprive each other of the marital due, which Mary would have done had she remained a virgin after bearing Jesus.—1 Cor. 7:3-5.

Yes, we do no dishonor to Mary when we accept that she gave Joseph his marital due as a dutiful wife should and as a result had children besides Jesus. So, both reason and the Scriptures indicate that Jesus did have half brothers and half sisters.



Record Arms Spending

◆ World military spending reached nearly \$300 billion in 1975, according to a recent analysis. This is a record, compared with \$270 billion the year before. The United States and the Soviet Union accounted for 60 percent of the total. The largest relative increase took place in developing countries of Africa, Asia and Latin America. In those lands arms spending increased twice as fast as the economic base that supported them. In the Middle East, such spending increased eightfold in recent years. Authorities called the arms race "out of control."

Cynicism About Government

◆ *The Wall Street Journal* reports that people are more cynical about their political leaders. According to public-opinion polls, vast numbers of people now believe that "it doesn't matter who wins elections." They see elections as "an exercise to resolve the ambitions of politicians—a power struggle essentially irrelevant to the problems of inflation and unemployment that intensely concern the people themselves." Polltaker Patrick Caddell said: "There is a belief that the (political) process is so unresponsive and dishonest that it cannot be used by voters for their purposes."

Breast-Cancer "Breakthrough"?

◆ Researchers in Milan, Italy, report encouraging success in treating breast-cancer victims. A special drug treatment after surgery, it is claimed, more than quadrupled a woman's chances of escaping an early recurrence of cancer. The study was directed by Dr. Gianni Bonadonna of the Institute Nazionale Tumori. The researchers worked with a combination of three drugs: cyclophosphamide, methotrexate and 5-fluorouracil. The women in the study all had one or more lymph nodes in the armpit involved, but no detectable spread beyond that. Those who had four or more nodes involved seemed to benefit the most, as only 8.8 had recurrences against 40.7 percent who did not get the drug therapy. Bonadonna says, however, that it is too early to determine if survival times have been greatly lengthened.

Hong Kong Taps Sea

◆ For more than a century Hong Kong has struggled to provide water for its growing population. But scheduled for completion this year is a 40-million-gallon-a-day desalting plant that turns seawater into freshwater. It is hoped that Hong Kong will finally have enough water for its more than 4 million residents.

Longevity 'No Accident'

◆ Dr. Robert Samp of the University of Wisconsin has concluded that living to a 'ripe old age' is not just an accident of genetics. After analyzing life patterns of people who lived longer than average, he said: "It's a result of lifetime habits. There is a definite personality type among these oldsters. We find a lifetime history of middle-of-the-road moderation, serenity, interest in others and interest in the future."

More Wives Working

◆ In 1947, five times as many American husbands worked as did wives. But by 1975 that figure was less than two to one, as about 20 million wives did work outside the home compared to 38 million husbands. In 1950, 28 percent of all wives with school-age children held jobs. But that figure leaped to 51 percent by last year.

Europe's Divorce Rate Soars

◆ An international sociological team reveals that the divorce rate in many European countries has experienced a staggering rise in the past ten years. Every fourth marriage in West Germany now ends in divorce. In Denmark it is two divorces for every five marriages. Sweden and England also have high rates. Another trend is that now two out of every three divorces in Europe are started by women; in West Germany it is three out of four.

Women Alcoholics

◆ Of at least 9 million alcoholics in the United States, some 2 million are women. And their number grows rapidly. In the past five years the percentage of women alcoholics in the organization called Alcoholics Anonymous has grown from 25 to 40 percent. One reason cited is the increased demands in recent times for women to have equal

rights, leading them to be less restrained in their approach to such things as drinking. However, children are paying the price for this excess. Among other negative aspects, states an authority, is the following: "Possibly many, many children have been very badly impaired because of damage through their mothers' drinking. We feel from indications we've had that kids who are mentally retarded tend to come from alcoholic homes. There must be some connection."

Elephants' Cooling Problems

◆ Like all mammals, elephants maintain a generally stable body temperature. They can withstand only a limited body temperature rise (about nine degrees) before tissues, especially those of the brain, are fatally damaged. But, unlike humans, elephants do not sweat as a means of reducing body temperature, and their gray skins tend to absorb the sun's heat. To compensate, they seek the shade of trees, wallow in mud and use their trunks to spray themselves with water. However, zoologists in Kenya say that their sources of shade and water are decreasing as the expanding human population reduces the elephants' habitats.

Compulsory Sterilization

◆ India, which has a net increase of about 13 million people a year, is talking about compulsory sterilization. Since its voluntary birth-control program has not stemmed the huge increases year after year, India's minister of health and family planning says: "We might have to resort to making a law, and it would be applicable to all." The limit talked about is no more than two or three children for a family. In China, married couples are strongly urged to have only two children. With their highly regimented type of life, this form of coercion appears to be generally successful.

Illiteracy Rising

◆ Ten years ago the United Nations Education, Scientific and Cultural Organization began an ambitious program to reduce illiteracy around the world. According to the agency's own report, the program has been a "dismal failure." When the program began, there were an estimated 735 million illiterates in the world; now there are about 800 million. During the decade the program reached only a million people, not all of whom learned to read and write.

Breast-feeding Benefit

◆ Sudden, unexplainable deaths among infants has long baffled the medical profession. But American physician Robert Reisinger claims that this is more likely to happen among bottle-fed babies than breast-fed babies. His claim was supported by a New Zealand study that said that, in comparison with breast-fed infants, ten times as many bottle-fed infants die from this "sudden infant death syndrome."

More Evidence

Against Smoking

◆ Additional information against smoking has been published by the *Canadian Medical Association Journal*. It found that with younger age groups the death rate of those who smoked cigarettes was two to three times greater than among nonsmokers. Nor are women spared, as 62 percent of those who died suddenly from heart diseases were heavy smokers, their average age at death being 19 years less than among nonsmokers. Men under the age of 65 who gave up smoking reduced the risk of heart disease by 50 percent, according to the *Journal*.

Increased Smoking Among Girls

◆ In spite of the clearly established hazards of cigarette smoking, more girls are doing it. Six years ago, 22 percent of

girls 13 to 17 years old were smokers, with 10 percent smoking at least one pack a day. Now 27 percent of these age groups smoke, with 40 percent smoking at least one pack a day. While among women aged 18 to 34 the percentage of smokers increased only slightly (from 34 to 36 percent), the percentage of heavy smokers among them rose from 51 percent in 1969 to 61 percent in 1975. Dr. Benjamin Byrd, president of the American Cancer Society, said that the new findings constituted an "urgent public health crisis."

Farming Without Plowing

◆ The traditional way to farm crops such as corn is to plow under what is left after harvest and to plant a new crop the next year. But another method called "no-till" is coming into wider use. Instead of plowing in the spring, soil preparation begins the previous autumn when a cover crop such as rye is sown. In the spring, it is killed with herbicides and falls to the ground as a mulch. The corn is then planted through this mulch, using special machinery. The mulch retains moisture, prevents soil erosion and inhibits weeds. Especially where top soil is thinner and the land hilly is this method more widely used. At present, an estimated 60 percent of corn and 50 percent of soybeans are grown the "no-till" way in the state of Maryland.

Rustling for Horsemeat

◆ For the past year, Texas officials have been warning horse owners to guard against rustling. They say that horses are being stolen for sale to slaughterhouses that turn them into horsemeat for sale to European countries. Horse steak, commonly eaten in some European lands, costs over \$2 a pound. One horse, stolen from a field outside Houston, was a highly valued thoroughbred. The slaughtering plant

paid only 22 cents a pound for this particular animal, not knowing it was stolen. The plants say that they have no way of knowing which of the 1,300 animals that they buy each week are stolen. Because of the European demand, horsemeat exports from the United States increased six-fold in two years.

Fast Mail Service

◆ Even with modern electronic equipment, mail service in some developed countries is slow. The *Toronto Globe and Mail* reports that the mail service in Tientsin, one of China's largest cities, is 'heroic by American standards—several deliveries a day, seven days a week.' A letter posted in a street mailbox before noon is said to be delivered the same day. If mailed in the afternoon, it is delivered the next morning. Mail to Peking, 70 miles

away, gets overnight service. A postal official in Tientsin said: "The delivery men now do three rounds a day rather than two so the letters can reach the people on time." Of course, mail volume there is much less than in Western cities.

Another Pill Warning

◆ The Population Council of the United States has concluded a study revealing that women over the age of forty who take oral contraceptives have a much greater death rate from that source than from any other method of birth control, including abortions. Their findings apply to women living in developed countries. The council claimed that for this age group the mortality rate from oral contraceptives is even greater than the mortality rate from

pregnancies due to using no birth control method at all.

Recession Toll

◆ The recent recession in the United States took a huge toll in bankruptcies. In fiscal 1975 there were 254,484 cases, 46,000 more than the previous peak in 1967. Among these were corporate and commercial failures numbering 30,130, an increase of about 10,000 from the year before.

Gambling in Japan

◆ According to federal officials in Japan, over \$12 billion was spent on legal gambling in that country during 1975. This estimated sum was wagered on government lotteries, horse races and the like. On the average, every person in Japan annually spends about \$110 on legal gambling. Illegal gambling also flourishes in that nation.

pregnancies due to using no birth control method at all.

Recession Toll

◆ The recent recession in the United States took a huge toll in bankruptcies. In fiscal 1975 there were 354,181 cases, 48,000 more than the previous peak in 1967. Among these were corporate and commercial failures numbering 30,180, an increase of about 10,000 from the year before.

Gambling in Japan

◆ According to federal officials in Japan, over \$12 billion was spent on legal gambling in that country during 1975. This estimated sum was wagered on government lotteries, horse races and the like. On the average, every person in Japan annually spends about \$110 on legal gambling. Illegal gambling also flourishes in that nation.

away, gets overnight service. A postal official in Tientsin said: "The delivery men now do three rounds a day rather than two so the letters can reach the people on time." Of course, mail volume there is much less than in Western cities.

Another Bill Warning

◆ The Population Council of the United States has concluded a study revealing that women over the age of forty who take oral contraceptives have a much greater death rate from that source than from any other method of birth control, including abortions. Their findings apply to women living in developed countries. The council claimed that for this age group the mortality rate from oral contraceptives is even greater than the mortality rate from

paid only 23 cents a pound for this particular animal, not knowing it was stolen. The plants say that they have no way of knowing which of the 1,300 animals that they buy each week are stolen. Because of the European demand, horsemeat exports from the United States increased sixfold in two years.

Fast Mail Service

◆ Even with modern electronic equipment, mail service in some developed countries is slow. The Toronto Globe and Mail reports that the mail service in Tientsin, one of China's largest cities, is "terrible by American standards"—several deliveries a day, seven days a week. A letter posted in a street mailbox before noon is said to be delivered the same day. If mailed in the afternoon, it is delivered the next morning. Mail to Peking, 70 miles