

Awake!

MARCH 22, 1978

WHAT SHOULD YOUR CHILD READ?

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WHY THIS MAGAZINE IS PUBLISHED

"Awake!" is for the enlightenment of the entire family. It reports the news, tells about people in many lands, examines religion and science. But it does more. It probes beneath the surface and points to the real meaning behind current events, yet it stays politically neutral and does not exalt one race above another. It also shows how to cope with today's problems. Most importantly, "Awake!" builds confidence in the Creator's promise of a peaceful and secure new order within our generation.

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How well do you manage your affairs?



By "Awake!" correspondent in Canada

ALL business, all family matters and all assets require management. So do liabilities. Really, everyone has affairs that must be managed, even if it is just the simple matter of getting through the day. So it is very worth while to stop and ask ourselves, "How well do I manage my affairs?"

When it comes to financial management, or management of assets, we may almost automatically think about the wealthy. The average employee earning a weekly or daily wage may not so readily view himself as a financial manager. This could very well be our first planning error. It is especially the person with limited means who must be a careful manager of affairs. After all, only the wealthy can

afford to pay for *mismanagement*—and it can be very costly!

Home Management

If you are a homeowner, your house probably constitutes your largest single asset. With problems of inflation plaguing all industrial countries and replacement cost of homes spiraling, the value of your house will generally be rising at a rate that keeps pace with, or even exceeds, the rate of inflation. Therefore, the home deserves management priority.

There are always things to do in connection with a home—repairing, replacing, tightening, adjusting, improving, painting, polishing, cutting grass, touching up, cleaning and other jobs unlimited. So the first step in good home management is to make a list of what needs to be done and to establish priorities. How can you get someone to do all the necessary things? And how do you pay for it? Surprisingly, there may be very little that you cannot do yourself—if you are willing to do a little reading and to spend the time needed to finish the tasks. While you may not be able to accomplish everything quite as fast or as well as professionals, you may be able to save considerable money and to enjoy a sense of accomplishment as an added reward.

If time is a problem, make a list of available hours and put it beside your list of jobs. Then determine what things you can do and start the work as soon as possible. It is not wise to put off making needed repairs, as the eventual day of reckoning may be more costly.

Most areas have building-supply stores or home-improvement centers. There, many excellent kits, simple tools, and do-it-yourself ideas are available, often at a reasonable cost. Also, many libraries have a fine selection of literature on repairs, carpentering, concrete work, landscaping and a multitude of problems that accom-

pany home ownership. Even if you have to buy or rent tools, you may find it cheaper to do a job yourself than to have it done professionally.

It would be good to get the family involved in home improvement. The rewards are not limited to financial ones. Family participation also contributes to family unity.

Keeping the house clean is certainly an essential part of the maintenance program, and all can cooperate in this. For example, it may be advisable to adopt the Oriental custom of taking off one's



Three steps to better home management are: (1) keeping careful record of your finances, (2) family cooperation and (3) learning to make home repairs

shoes and putting on slippers when entering the home. Surely, we would not appreciate someone's walking from the stable into our living room and wiping his shoes on our favorite rug. Yet, when compared with many city streets, the stable may be the cleaner place. Tons of soot, debris, garbage, filth and pollutants are present on most city streets. Why deposit that kind of dirt in your home

when this could be avoided simply by removing your shoes?

Management of a house should not ignore home protection. You may have to make decisions regarding insurance. If you now have insurance, how recently have you examined your fire-insurance coverage and any liability and mortgage insurance that you may have? Because of inflation, what was a good coverage a number of years ago may no longer be adequate. When did you last consider the cost of replacing the contents of your home?



Mortgage insurance is really term life insurance. In addition to protecting the home, it is a relatively inexpensive way of creating an "instant estate" in the event of death. For a young couple, it is usually the most inexpensive way of providing financial protection.

If you are working toward a family goal such as a home, you must pay the price. This often means living within the confines of a financial limitation for a considerable time until the goal is reached.

Money Management

Money is another asset that requires management. At times people are heard to say, "I just don't know where the money went." Usually this indicates that there was no budget, or there was an impractical, incomplete budget, or a failure to stick to a reasonable budget.

If you have a sound family budget, there is one unalterable rule that will keep you out of trouble. Discipline yourself to live within your means. When spending exceeds income, whether it be on a national or a personal level, the problem quickly

compounds itself beyond control, and the result is chaos. Care should be exercised in using credit cards so that a person avoids buying merely what he desires and not what he actually needs. An intelligent adjustment in one's life-style may be needed for one to be a good manager of finances.

"Save for a rainy day" once was a basic family rule. And it still makes good sense today. For most persons there is no other way to increase one's assets. And wise investment of savings can offset inflation. For example, if a 22-year-old could save one dollar each day and he arranged to invest it at 10 percent, he would have more than 200,000 dollars at the age of 65.

In good money management, all dormant cash, whether large or small amounts, should be kept working to the best possible advantage. Whether for an individual or for a group, checking accounts bearing little or no interest should hold only funds sufficient for immediate needs. Money that is not needed right away could be put into deposits that produce maximum interest. You do not have to be satisfied with a minimum-return savings account. If you care to negotiate, many banks will pay even slightly more than their advertised interest rates.

Some individuals have preferred to put investment funds into areas that generally do not suffer from inflation, such as revenue-producing real estate, or land. Of course, caution and expertise are required in making such investments. But often they yield greater profits than would a savings account. Furthermore, in most places, interest on cash is subject to income tax, whereas gains on capital investments may not be taxed or may be taxed at a lower rate.

In calculating the return on any investment, it is a serious mistake to disregard

the amount of tax involved. If the investment is substantial, the advice of an expert may be needed.

The managing of one's possessions is becoming more and more complex. No single set of guidelines will cover all the

problems. But there is wisdom in learning fundamentals and applying them. It is not easy to follow principles of sound management. But the effort made is well worth it, for good management can affect your future and that of your loved ones.

minimarkets of the Philippines



By "Awake!" correspondent
in the Philippines

supplies. The bigger the store, the greater the variety of goods to be found there.

The minimarket is the busiest in the early morning hours, at noonday and in the evenings. Children, housewives, office work-

IN THESE days of gigantic supermarkets and sprawling department stores, where can you go to buy just one piece of candy, one stick of chewing gum, one tomato, a cent's worth of salt or a thimbleful of soy sauce? If you were living in the Philippines, you would probably go to a *sarisari* (variety) store, one of many thousands of minimarkets in the country.

The *sarisari* store sells a multitude of assorted small items. Business is conducted within a cramped cubicle on the ground floor of someone's home. Items sold may include soap, petroleum, candies, dried fish, soft drinks, rice, corn, beans, canned goods, bread, salt, sugar, aspirin, iodine and school

supplies. The bigger the store, the greater the variety of goods to be found there. The minimarket is the busiest in the early morning hours, at noonday and in the evenings. Children, housewives, office workers, jeepney drivers—all kinds of people—make the *sarisari* store a beehive of activity. The storekeeper is a busy person indeed. He waits on customers, wraps their purchases, counts out their change, opens soft-drink bottles, deftly pours rice into paper bags—yes, he does a host of things during a 16-hour day, seven days a week.

The *sarisari* store may also serve as a reading center, a social club, a first-aid clinic, a telephone booth, a child-care center, a lost-and-found department, a miniature post office and a community newsroom. The storekeeper takes it all in his stride.

Some of these stores are cooperatives, meaning that many people pool their small capital to put up a store and share in its profits. But most stores are family businesses.

Certain *sarisari* stores have been forced to close because of stiff competition from newer and bigger stores put up by neighbors eager to get a slice of the community business. But many have grown into thriving enterprises or have branched out into other businesses. These minimarkets help to keep the family together during lean times and provide the funds sorely needed for the schooling of the children.

A Training Center in Human Relations

It takes a great deal of patience to deal with the various types of people who come to the *sarisari* store. A sense of humor is demanded of the storekeeper too. While he takes his business seriously, he doesn't take it *that* seriously. He shrugs off other people's shortcomings in the hope of encouraging them to buy more often. But if he loses a peso (14c) today, he takes that with a smile. What's a peso between neighbors? The books will balance in the end. So he hums a tune and calls it a day, thankful that he has lived the day as an honest man.

Honesty Still a Good Policy

The storekeeper knows the absolute need for honesty in his business. He makes sure that he is selling sound fruit, free of worms or maggots, that fish or other meat is fresh and that customers receive correct change. Dishonesty in measuring commodities could lead to his being ostracized by his neighbors and having a stiff fine imposed on him at the municipal hall. Through honesty, however, the storekeeper proves himself to be a good friend and a fine neighbor. This assures him that his minimarket will prosper in the community.

A Friendly Neighborhood Meeting Place

The small community *sarisari* store is more than just a convenient place to buy things. It is a friendly place, where people meet and get to know one another better. Here is where one hears people's cheerful greetings. They may linger in the comparative cool of the evening to swat the mosquitoes and to discuss the latest news—the children growing up, the new people in town, the rice crops, the latest weather bulletin, the oil crisis, the new president in some distant country or, perhaps, even the good news of God's kingdom.—Matt. 24:14.

The atmosphere is completely informal. You may send your youngest child to do the buying for you. Simply give the youngster a basket, a list of things to buy and some cash. The storekeeper will hand him the groceries, check the items off the list and give your child the exact change, plus some candy if business happens to be good. If the money you gave your youngster happens to be short of the full amount, the storekeeper will simply ask him to run along with the groceries and bring back the rest of the money needed to make full payment for the purchases.

In Future Issues

- ***Life on Earth—Design or Coincidence?***
 - ***How Is Television Affecting Us?***
 - ***Did My Baby Go to Limbo?***
-

A Place for Children to Learn

The thousands of children who work with their parents in *sarisari* stores become efficient with shortcut arithmetic, calculating in their own little heads as they handle money. These children also get training, as well as a big thrill, when their mothers take them along to the big market in town to replenish the store's stock.

She and the children get up in the early hours of the morning to go marketing for fresh fish, vegetables, fruits and other items for the store. She wants to buy directly from the farmer or the fisherman at lower prices than she would have to pay when trading with middlemen later in the day.

The youngsters learn to look for lower prices. "Don't buy goods from the stalls near the streets," the mother tells them. "Rent is higher for these spaces and so the prices are higher. Go deeper into the market, where stall rent is lower, to get the best bargains." While trying to find the best prices, the mother also teaches the children to be wary of prices that are unusually low. Such goods might be stolen, damaged or smuggled items.

A Storekeeper Is Orderly

On arriving from the market, the mother stacks her supplies neatly on the

open shelves in her store. Bottled goods go on one shelf, canned goods on another. Soft drinks are kept near the freezer or refrigerator. Fresh vegetables and fruits are placed on a well-ventilated bamboo table, away from the sun.

Rice and corn are kept in wooden boxes for quick pouring. Candies, chewing gum and other children's favorites, usually in large bottles, occupy their own rows. Sugar—dark brown, medium brown and refined—already has been weighed out and placed in paper bags. Prices are written out on little squares of cardboard or on the individual items.

The mother takes pride in her store-keeping and likes to keep everything in its proper place. She gets things ready the night before and, as day breaks, the store welcomes its first customers.

Despite the supermarkets and department stores that now are flourishing in most cities of the Philippines, the humble *sarisari* store still fills an important need. It is there that a Filipino can purchase his immediate needs and also find a measure of warm companionship, some pleasant conversation and a sense of belonging in the community. So, the next time you are in this part of the world, do not overlook the humble *sarisari* stores—the mini-markets of the Philippines.

Honduran Determination

A YOUNG Honduran man desired very much to attend a coming assembly of Jehovah's Witnesses, since he had not missed any such assemblies since becoming a Witness. But he fell sick before the assembly and, after getting well, could not find work to earn what he needed to attend. Two days before the assembly he still did not have the money.

Then the day before the assembly he went out to the woods and was surprised to see a parrot in a tree. And, looking around, he saw two more young parrots. The determined Honduran climbed the tree and captured the three parrots, selling them for enough money to take not only himself but his mother and brother to the assembly.

Crossing the Nullarbor

By "Awake!"
correspondent
in Australia



ON September 29, 1976, the cutting of a ribbon marked the 'tying of the knot' that joined the two halves of the driest and one of the most sparsely populated continents in the world—Australia. In a land that is 43 percent desert and 20 percent semidesert, the completion of the Eyre Highway—the only direct link between the eastern and western states of this vast continent—was welcomed by tourist and resident alike.

The completing of a road may not seem very exciting, but to those who have traveled on it before it was finished, the highway's completion is the end of a nightmare. Fifteen years ago, for example, over 700 miles (1,127 kilometers) of it was dirt road. That distance is farther than from Paris to Berlin or from New York to Detroit!

This unsealed section (not coated with tar) crossed the unique Nullarbor, the largest bedrock limestone plain in the world. The name comes from the Latin *Nullus arbor*, meaning "No tree," and well describes the mile upon mile of generally level, treeless and waterless landscape. Patches of salt bush are dotted across vast stretches in an area that averages only eight inches (20 centimeters) of rain a

year. And people are as scarce as trees, with only about one person to every 43 square miles (111 square kilometers)!

Imagine traveling these hundreds of miles on a surface that could turn into a quagmire of mud with a heavy rainfall. Cars could be sent sliding from one side of the road to the other, forcing them to travel at a snail's pace. On the other hand, in summer the searing heat of well over 100 degrees Fahrenheit (38 degrees Celsius) would be almost suffocating, particularly with the car's windows shut to exclude the fine Nullarbor dust.

That dust was a problem in another way, too. It would fill up the many potholes and make the road appear deceptively smooth. Striking those holes often resulted in lost wheels, broken springs or axles and damaged or destroyed caravans (trailers). If something like that happened hundreds of miles from a town, it might be many hours before another driver came by to provide assistance or take a message. Even

then, days might pass before the needed materials or services arrived—a costly business, both in time and money. If you left your car for any length of time, you could find it stripped when you returned.

The fine dust could affect visibility, too, and lives were lost due to collisions occurring in the dust clouds churned up by vehicles. So the prospect of crossing the Nullarbor filled even the experienced traveler with apprehension. Why, as late as 1974, there still were about 250 miles (400 kilometers) of road just like that! And that was the only way anyone could get from eastern to western Australia by car!

The Rugged Past

The earliest recorded east-west crossing of the Nullarbor was accomplished by explorer John Eyre in 1841. In 1877 a telegraph circuit was established to span the continent. During the ensuing decades, men rode horses, camels and even a bicycle across the Nullarbor, following the telegraph line in pursuit of the gold that had been discovered in western Australia.

Then in 1912 a railway line was started across the vast plain, north of the present highway. Three thousand five hundred men worked five years to lay 1,000 miles (1,600 kilometers) of track. Many died and others went mad due to the savage desert conditions. The terrain there is well illustrated by the fact that a 300-mile (480-kilometer) stretch of that railway runs without a curve and nearly without a rise or a fall.

For decades the road across the continent was little more than a stock route. During the war year 1941 the Eyre Highway came under the threat of invasion, but much of it remained unsealed. In that same year, a group of 54 Jehovah's Witnesses struggled across it, all the way from Perth to Sydney to attend a Christian convention, traveling about 2,780 miles (4,480 kilometers) each way! Due to the

wartime lack of petrol (gasoline), those Witnesses lumbered along with heavy, smoking charcoal gas producers attached to their cars and trucks to provide needed fuel. Certainly, anyone with tremendous determination could cross the Nullarbor. But doing so was no picnic!

Men, women and children were part of that convention-bound Witness convoy crossing Australia in 1941. Concerning their arduous journey, the *1943 Yearbook of Jehovah's Witnesses* states:

"For one solid week, the travelers were required to endure the hardships of the Nullarbor desert. Hair and clothes became clogged with dirt, and washing in the limited supply of water only sufficed to turn the dirt into mud. Cars were required to stop and refuel every fifty miles [80 kilometers]. Some of the slower-moving vehicles drove 24 hours a day, the drivers taking duty in shifts, eating and sleeping as the convoy moved forward.

"At the start of the desert-crossing, and in the dead of night, military, police and Fuel Board officials swooped down on the encamped convoy, removing every drop of emergency petrol. The pettiness and crass stupidity of this action is apparent when it is realized that these officials must have wasted 50 gallons [190 liters] of petrol traveling out from Perth. They confiscated a meager 6 gallons [22 liters]! Undaunted, the little band of publishers shouldered the task imposed, pushing the first car two or three miles [3 to 5 kilometers] each morning until it was started on charcoal gas, and returning to assist this car in towing the others up to the start. . . .

"Jehovah's watch-care and protection were manifest in a shower of rain which for several days preceded the travelers across the desert, and in unseasonable crosswinds, without which passengers and vehicles would have been smothered in dust. Much to the amazement of 'the world', the

'West Aussies' were on time for the opening session of the Assembly!"

Crossing the Nullarbor Today

On the beautiful, wide, sealed highway of today, the 1,039 miles (1,672 kilometers) across the Nullarbor is far easier to cover. But it still is a long, tiring and lonesome trip, and for 750 miles (1,207 kilometers) of that distance, there are only a few roadside places to stop for supplies, as well as some water tanks (that can run dry in the summer). There is not a single town. Occasionally, there is a turn-off to one of the enormous sheep stations (ranches) along the way. One of these covers 800,000 acres (324,000 hectares) and is encircled by 300 miles (483 kilometers) of dingo (Australian wild dog) fences, although it supported only about 3,000 sheep in 1976. The usual stocking rate for land there is about one sheep for every 34 acres (14 hectares). On the other hand, the rabbits and flies seem innumerable!

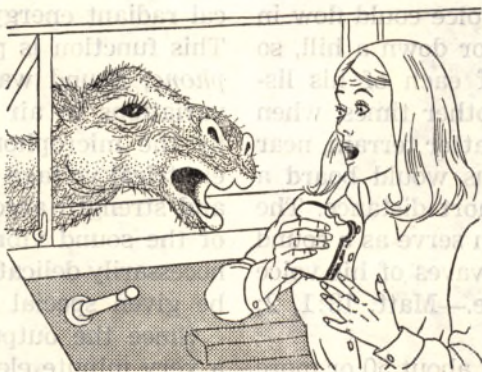
Because of the large uninhabited expanses, travelers are always advised to carry extra fuel, spare water and tinned (canned) food. Besides having their cars in excellent condition for the journey, drivers should have basic spare parts and needed tools for any likely roadside repairs.

What if help is needed along the way? Well, there are emergency telephones every few miles. These are linked to tall microwave towers and are powered by electricity produced by small windmills—an ideal pollution-free innovation requiring a minimum of attention. Urgent medical aid can

be provided by the "Flying Doctor" service that uses small planes that can land on the highway.

Early during the journey across the Nullarbor, we pass through the Yalata Aboriginal Reserve, where it is not unusual to see a group of the typical dark-skinned inhabitants. A few hours later, the road reaches and then follows the coastline. What an awe-inspiring scene we then see! The deep blue of the Great Australian Bight (bay) seems to rush head on into rugged cliffs that rise dramatically to a height of 300 feet (91 meters). We are viewing the longest line of sea cliffs in the world!

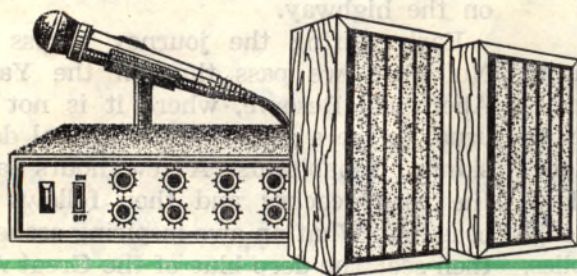
Along the way, signs warn us of dangers. There are occasional wild camels, descendants of those brought here during the nineteenth century to assist in exploration and transportation. But they may not always be dangerous. Sometimes they simply are curious. If you stop to have something to eat, one may poke his drooling head through your window and invite himself to dinner!



Then there are the kangaroos. They can shoot out suddenly from the bushy areas near the highway, causing serious collisions. On the other hand, they may hop along the road with the car, or just sit there at night in the middle of the road, seemingly mesmerized by the auto's lights.

So we must be careful!

Yet, the biggest danger—that old, rough, dusty road—is gone. Although accidents can occur through speed or carelessness, the wide, well-surfaced Eyre Highway now makes the crossing of the Nullarbor a safe and pleasant journey.



THE MODERN MARVEL OF SOUND AMPLIFICATION

BIBLE history has an account of many large gatherings of God's people where it was necessary for all to hear. The books of Deuteronomy and Joshua record cases in which Moses and Joshua spoke to the Israelite nation, then numbering into the millions. These men may have had to resort to public speaking by human relay. At best, that would be a slow and time-absorbing way of addressing vast multitudes.

Jesus occasionally resorted to natural acoustical means to aid him in projecting his words of life to others. He might select a mountainous area, where the sound waves produced by his voice could flow in a direct path either up or down a hill, so as to reach the ears of each of his listeners. (Matt. 5:1) At other times, when pressed by a crowd on flatter terrain, near the Sea of Galilee, Jesus would board a boat and move out a short distance. The smooth water would then serve as a sound reflector to convey the waves of his voice to the listeners on shore.—Matt. 13:1, 2; Luke 5:3.

Today, when groups of about 50 or more gather to listen to a speaker, they often enjoy the marvel of *electronic amplification*. Modern equipment can amplify a speaker's words many times in volume and yet maintain the quality, tone and timbre of his individually distinctive voice. The speaker, as well as his audience, is aided. Diaphragmatic oratory is unnecessary, the

speaker not having to exert much power in order to be comfortably heard. He does not have to overtax his voice or make unnatural changes in tone, volume or emphasis. And those listening do not need to strain their ears to catch what is said. They can concentrate without effort on understanding what they hear. Let us consider what makes up a good public-address sound system.

How Is Sound Amplified?

The first step in modern sound amplification is to convert sound vibration, which is a form of acoustical or mechanical radiant energy, into electrical energy. This function is performed by the *microphone*. Sound waves, which are actually variations in air pressure, are converted by the microphone into a corresponding electrical voltage that varies in frequency and strength according to the "pressure" of the sound vibrations. Microphones are necessarily delicate instruments and should be given special care.

Since the output of the microphone is a very minute electrical voltage or signal, that signal must be strengthened or amplified many thousands of times in order to "drive" a loudspeaker. For this purpose, an *audio amplifier* is used. Many amplifiers have provision for receiving the signals from several microphones or other sources, combining them, and then amplifying the combined program to the power

required for the audience to hear easily. Occasionally a separate *preamplifier* is used to increase the low-level signals from the microphones, mix them together and then distribute the combined program to any point, near or far, where it can be further amplified as needed. Large sound systems may utilize many amplifiers, each working to supply the program to a specific area, where the audience may consist of a few persons or many thousands.

Finally, the amplified electrical signal is fed into one or more *loudspeakers*. The loudspeaker acts as a sort of microphone in reverse. A cone or a diaphragm is set to vibrating by the amplified electrical current. Electrical energy is thereby converted into mechanical energy, setting up vibrations in the adjacent air once again with sound waves that are audible to our hearing.

Selection of Components

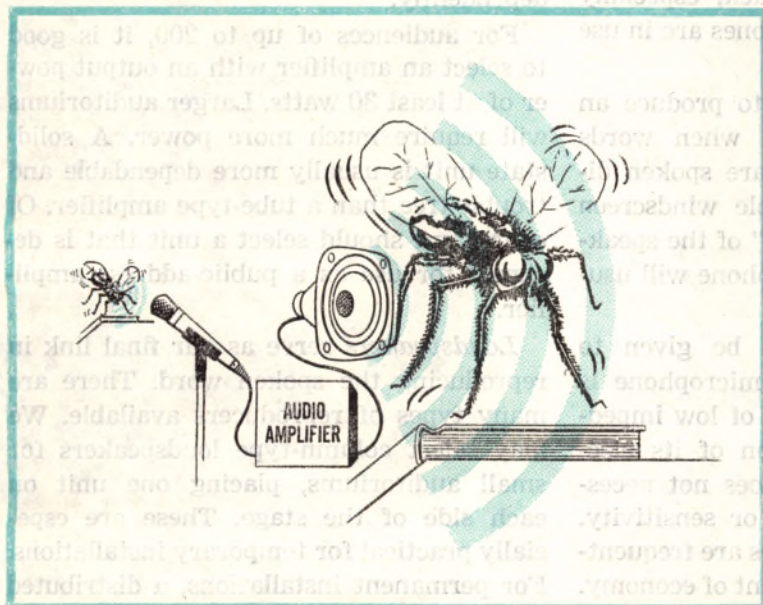
Since the objectives in amplifying speech are (1) to allow everyone to hear well and (2) to preserve the naturalness of each speaker's voice, careful selection of the right components for your sound system is vital. The adage "You get what you pay for" applies here. So-called "bargain parts" do not usually contribute to your objectives with the dependability and quality that you need. It is good to consult an experienced sound technician when purchasing a public-address system. This will aid you to get a system of good quality and of sufficient power, but not too powerful or expensive for your needs.

The first link of your sound system is the *microphone*. Each kind of mike is designed for a specific application. There is no best one for all situations. For the amplification of *speech*, the *dynamic* microphone usually will

fill your needs. It has good fidelity, is rugged, relatively trouble-free, and moderately priced.

Next, decide what kind of microphone pickup pattern would best suit your needs. Should you choose an *omnidirectional* unit, which picks up sound from all directions, or a *unidirectional* one? *Figure-eight* pickup patterns are also available.

A *unidirectional* microphone is also called a *cardioid* mike because it responds to sounds in a somewhat heart-shaped pattern around the front of the unit. Since the back of the *cardioid* micro-



Modern sound amplification equipment can turn the buzz of a fly into a room-filling roar!

phone is relatively dead, its use generally aids in reducing acoustical feedback, the squealing noise that occurs when sound from the loudspeakers is picked up by the mike. However, we sacrifice some advantages with the selection of the cardioid unit. If the speaker is slightly "off mike" he may not be picked up well. Also, the cardioid unit is not usually as rugged as other types of microphones.

There are certain definite advantages in using an omnidirectional microphone. Where speakers may not be talking directly into a mike, such as when it is passed among a group of people, the *omni* pattern is most practical. This microphone is usually a less expensive unit and is more rugged. Hence, in many applications it will do an excellent job. However, such microphones usually are more likely to pick up extraneous noises and to contribute to acoustical feedback, especially where two or more microphones are in use at the same time.

Some microphones tend to produce an undesirable popping sound when words having a hard "p" or "t" are spoken directly into them. A suitable windscreen to prevent the "breath blast" of the speaker from entering the microphone will usually rectify this.

Consideration must also be given to microphone *impedance*. A microphone is said to be either of high or of low impedance, which is a description of its electrical characteristics and does not necessarily relate to its quality or sensitivity. High-impedance microphones are frequently selected from the standpoint of economy. However, there are certain inherent problems that reflect on the *apparent* quality of the system. For example, if the microphone cable does not exceed 50 feet (15 meters) in length, a high-impedance sys-

tem is fine. But if the cable exceeds 50 feet, a low-impedance system would be recommended, in order to minimize high-frequency losses created by the capacitance of the cable. The low-impedance system also helps to eliminate the pickup of hum and possible interference from nearby radio transmitters, such as CB, police radio, and so forth. Low-impedance microphones should be connected through low-impedance microphone cables, and their use may require adjustments in the amplifier, such as adding input transformers to receive the low-impedance signal and match it to the amplifier. All professional sound installations utilize balanced low-impedance microphone circuits.

The second sound-system link involves the *amplifier*. An amplifier should be selected that has an input and individual volume control for each microphone to be used. Each mike can then be adjusted independently.

For audiences of up to 200, it is good to select an amplifier with an output power of at least 30 watts. Larger auditoriums will require much more power. A solid-state unit is usually more dependable and trouble-free than a tube-type amplifier. Of course, we should select a unit that is designed for use as a public-address amplifier.

Loudspeakers serve as our final link in reproducing the spoken word. There are many types of reproducers available. We may select column-type loudspeakers for small auditoriums, placing one unit on each side of the stage. These are especially practical for temporary installations. For permanent installations, a distributed system using ceiling-mounted speakers is usually very satisfactory. If the ceiling is relatively low, this system is especially recommended, for it allows all in the audience to sit at approximately the same

distance from a loudspeaker. Ceiling speakers should be spaced in staggered rows, their distance apart being approximately one and a half times that of the measurement from the floor to the ceiling. Those loudspeakers closest to the speaker's stand could be wired for lower power, permitting greater volume for the whole system before acoustical feedback occurs.

When wiring the loudspeakers to the amplifier, they should be electrically matched to the amplifier. This is accomplished by selecting the appropriate impedance tap on the back of the amplifier that most closely matches the impedance of the loudspeaker. Most modern amplifiers provide for what is called a "constant voltage" system for matching multiple loudspeakers. Frequently, the 25-volt or 70-volt output on the back of the amplifier is used. In some countries a 100-volt system is popular. At the lowest voltage it is unnecessary to enclose the speaker wires in conduit. The constant-voltage system requires that a small transformer be installed in line with each speaker to match the speaker to the system. You are now ready to operate your sound system.

Sound Suggestions

A microphone should be adjusted to a distance of about six inches (15 centimeters) from a speaker's mouth, with consideration given to the raising and lowering of his head. It must be close enough to provide adequate volume without any trace of acoustical feedback, yet not so close as to make the speaker uncomfortable or to cause the sound to fade with normal head movement. A microphone adjusted too close to the speaker is also subject to annoying "popping" due to the explosive characteristic of the speaker's breath when certain words are spoken.

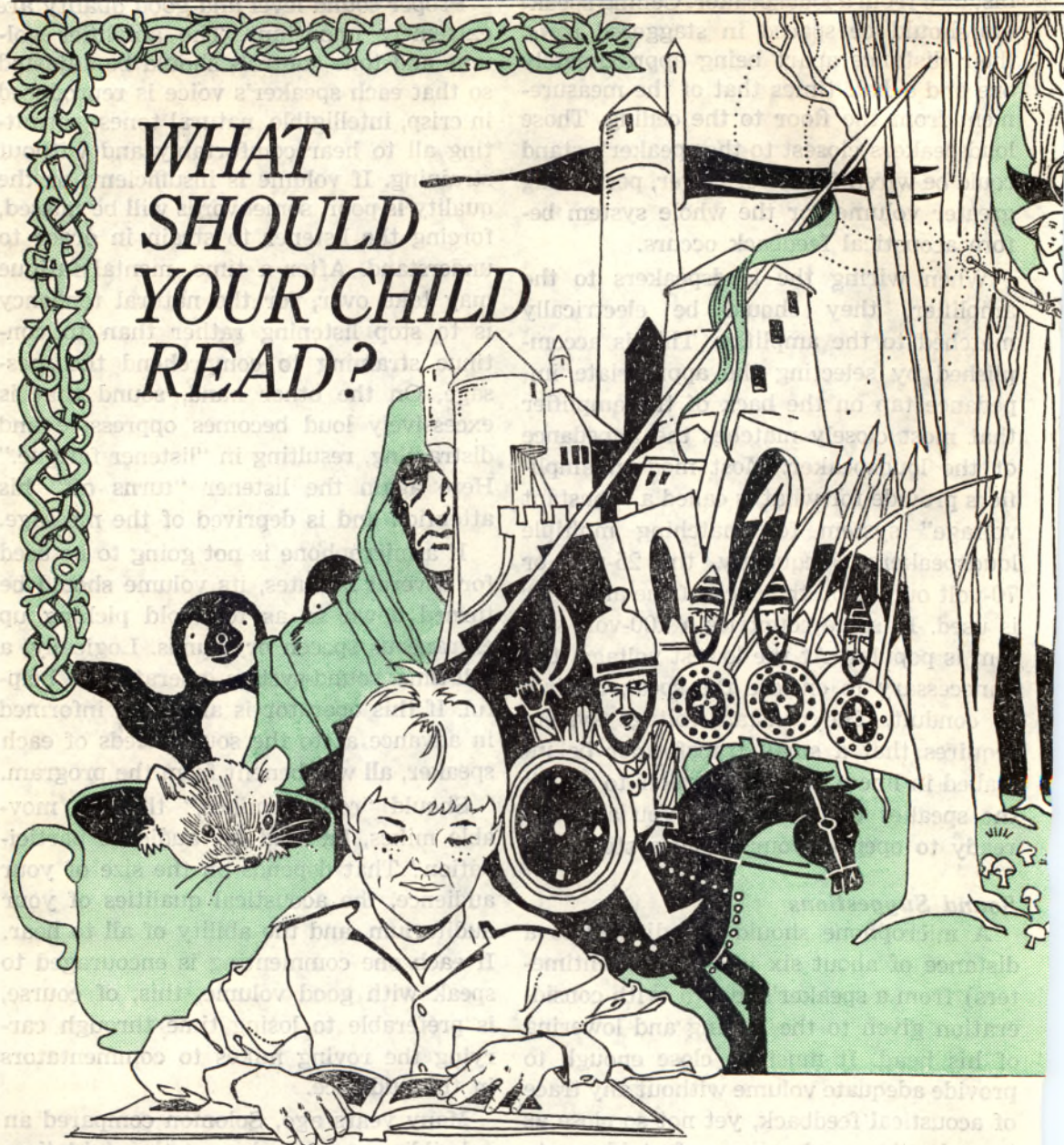
Proper sound level and good quality are extremely important. The amplifier volume and tone controls should be adjusted so that each speaker's voice is reproduced in crisp, intelligible, natural tones, permitting all to hear comfortably and without straining. If volume is insufficient, or the quality is poor, some words will be missed, forcing the listener to strain in order to understand. After a time, mental fatigue may take over, for the natural tendency is to stop listening rather than to continue straining to comprehend the message. On the other hand, sound that is excessively loud becomes oppressive and distracting, resulting in "listener fatigue." Here again the listener "turns off" his attention and is deprived of the message.

If a microphone is not going to be used for several minutes, its volume should be turned down so as to avoid picking up extraneous speech or sounds. Logically, a full-time sound-system operator is helpful. If this operator is alert and informed in advance as to the sound needs of each speaker, all will benefit from the program.

Should "roving mikes," that is, movable mikes, be used for audience participation? That depends on the size of your audience, the acoustical qualities of your auditorium, and the ability of all to hear. If each one commenting is encouraged to speak with good volume, this, of course, is preferable to losing time through carrying the roving mikes to commentators in the audience.

Many years ago, Solomon compared an upbuilding word spoken at the right time to "apples of gold in silver carvings." (Prov. 25:11) If the audience is large, this is true of words having to do with life, when they are easily heard and understood by means of the modern marvel of sound amplification.

WHAT SHOULD YOUR CHILD READ?



FANTASY! Science Fiction! Romance! Hobbies! Adventures! Fairy Tales! All are competing for your child's attention. "Buy me *that book!*" "I want to read *that story!*"

Do you hear such words from your youngsters? Will you encourage them to read? If so, read what?

It is not that every little boy and girl is eager to plunge into a book. Sur-

veys indicate that television has stifled reading for many children. Speaking of TV, one researcher noted: "Children's viewing experiences influence their reading in critical ways, affecting *how much* they read, *what* they read, [and] *how they feel* about reading." Thus many teachers and psychologists recommend *less television, more reading*.

And most parents want their children to love to read. They know that it is an ability to cherish. One teaching manual summed it up nicely, saying: "Reading has a direct influence on our lives. The kind of work we do, the skills we develop, our enjoyment of life, our spiritual growth are all connected with our reading ability. Without this ability to read one is denied much of the richness of learning and experience."

On the other hand, does this mean that you should be so grateful to see your child reading that you supply any kind of material the youngster wants? Or should you control what your children read?

What Is Your Objective?

A great variety of children's literature is being printed today. Presently there are more than 150 publishers of children's books and more than 250 children's magazines in the United States and Canada alone. Will not the type of material that a child feeds his mind on affect his expectations, his relations with others and his view of himself? Ask yourself: What view of people should I hold before my child as the right one? What moral standards should I encourage?

It is popular today to adopt a philosophy of letting the child read and observe what he wants, permitting the child to 'establish his own moral values.' However, in reality, this view

allows other people to form your child's outlook on life.

But do not all parents hope for healthy, balanced and stable children? Do they not desire to see their offspring successful and so encourage them to develop skills? How is this achieved? A Bible proverb replies: "Train up a boy according to the way for him; even when he grows old he will not turn aside from it." (Prov. 22:6) Obviously, then, parents should direct what their young ones are allowed to read and dwell on. This is even more evident when one considers the power of a story on the young mind.

Reading Is Believing

One mother watched her young son as he read a story about how "the wise spider" saves the "dumb little pig" from slaughter. He was so touched at the end that he kissed the illustration of the spider! Is there any doubt as to how much he was moved by the story or how "real" it was to him?

A children's writer acknowledged this power by saying: "The truth of the matter is that children read with their whole hearts. They may ask at the beginning, 'Is it true?' Yet even if you say, 'No, it is just a story,' it is never *just* a story to them. It is a life to live, an entire and very real life to live." Further emphasizing how much stories affect children, author Alice Dalgliesh observes: "Adults sometimes fail to recognize the very important point that books for little children often *go over into action*—the child draws, or dramatizes what is read to him, or incorporates it into his speech."

What an awesome force! By means of stories the child can suddenly be in an African jungle, or, outer space, or can travel with the prince as he looks for the princess.

Especially powerful are "parables" or stories with a point to make. One mother

of several boys tells of how her young sons, who often tended to be stingy with one another, were touched by a story about a tree and a little boy. The tree repeatedly gave parts of herself to the boy until all that remained was her stump. The mother's observation as to how the boys responded was: "Now, it's clear that all my sons identify not with the boy but with the tree, who, they perceive, has found more contentment in her giving than the boy has ever managed to find in his taking."

Yes, lessons in how to live life can be learned. Imagination and creativity can be stirred. The young one can grasp more about the 'larger world' beyond his neighborhood. A sense of past times—history—can be developed. But are all the books in the children's section of the library or book store equally advantageous? Perhaps not. Recent changes in children's literature are not to be ignored. A brief look at the development of literature aimed at youngsters will reveal the new trend.

Development of Children's Literature

Ever since a Frenchman published Mother Goose Rhymes toward the end of the eighteenth century, publishers have been seeking to please juvenile readers. In the nineteenth century the Grimm brothers, Jacob and Wilhelm, began recording German folk tales. About the same time, in Denmark, Hans Christian Andersen set about writing stories that have remained popular for generations. Meanwhile, in England, Lewis Carroll produced *Alice's Adventures in Wonderland*.

From these beginnings a wide variety of material has evolved. Many stories are adapted from ancient "folklore"—often a mixture of exaggerated history and myth. Others deal with present-day situations. Today, children's literature is usually divided into four categories:

(1) Nonfiction. These include children's encyclopedias and "how to" books. They can assist a child in overcoming fears about trying new things. There are non-fiction books for children on how to plant a garden, how the gasoline engine works, how to arrange flowers and even how to manage money!

Books that teach the alphabet and "new words" can really help young ones to reach out for a greater vocabulary and increased reading comprehension.

(2) Fairy tales. These are folk stories about fairies, dwarfs, magicians and similar characters. In these tales the solution often comes about by supernatural or magical means. Back in 1697, Charles Perrault published five fairy tales, including the present-day favorites "Red Riding Hood" and "Cinderella." Actually, since many fairy tales first existed as oral stories, their origins are often obscure.

(3) Fantasy. These are the works of known authors. But like fairy tales they describe beings and events that do not exist in real life. *The Wind in the Willows* and *The Adventures of Pinocchio* are well-known examples of this style of writing. Modern fantasies often take place in outer space on other planets.

(4) Fiction. This category encompasses those books that describe the world as we know it, although the characters and situations described are invented by the author. Famous examples are *Heidi* and *The Swiss Family Robinson*.

It is in this latter category that there have been the most drastic changes in recent years. Here is how one children's writer, Jane Yolen, described the new trend: "There are no longer any taboos in children's books, except that of bad taste. . . . What was once not even whispered in the parlor, and only snickered at in the barroom, is now legitimate fare for young readers. The old-fashioned view that certain things should be taboo for

children simply because they are young is no longer in style."—*The Writer*, April 1975, p. 12.

She lists the reasons for this change as (1) more highly educated children, (2) the abundance of magazines in the house that describe today's world and (3) especially television with its "instant replays" of "student uprisings, the assassination of political figures, the birth control battles, the change in sexual mores."

While many might disagree with her reasoning as to *why* the current "style" exists, the reality is that many topics are now included in children's literature that were not there 10 or 15 years ago. A look at recent titles reveals discussions of drunkenness, divorce, premarital sex, pregnancy, abortion, homosexuality and senility.

Further, the trend today of some children's writers is to view it as prejudiced and narrow to write for a "moral purpose"—that is, to lead young people away from evil and toward good. This, they argue, is "propaganda." In their view, it should not be "the good guys" versus "the bad guys"—heroes versus villains. They claim that the writer should not preach to the youngsters. Rather, he should simply tell a convincing story.

Another recent change has been in the attitude of some children's authors toward the Bible. For instance, one said: "Many of the Old Testament stories rest on the primitive conception of Jehovah as a vengeful God who punishes in a terrible way (as in the story of the Flood) or a God who demands elaborate evidence of submission to his will (as in the story of Abraham and Isaac.)."

Actually, this is not what the Bible itself teaches. To the contrary, it continually portrays Jehovah as a loving Father urging his erring children to return to doing what is good. (Mal. 3:6-10) Yet the writer who takes such an antagonistic position toward the God of the Bible cer-

tainly would not encourage his little reader to look to that One. The Christian parent who believes that a close relationship with God is the greatest gift one can give his or her child will want to be alert to this extreme view.

Thus, parents, after considering the turmoil in the world of children's literature, the question comes back to you: What about the many different kinds of books? What will you let Johnny or Jill read?

What Can Parents Do?

Obviously, it is not wise to classify all the literature in any of the above four categories as being "all bad" or "all good." Both parents must have clearly in mind the emotional needs of the child, according to age, and how any literature might affect *that particular child*.

For example, let's consider the fairy-tale category. Some would argue that the child is enriched—imagination is stirred, good usually triumphs over evil. Others would reason that such tales embed superstition and promote an unhealthy outlook toward the supernatural. Further, they may cause the child to seek to live in a dream world, expecting magical solutions to life's problems instead of appreciating that effort must be put forth to attain desired goals.

Parents must decide. But whatever the inclination of your reasoning, is it not important to consider each of your children as an individual? One child may already tend toward a great deal of "daydreaming" and so it would be wise to turn his young mind in other directions.

"But, how do I know what effect his story books have on him?" you may ask. It is not always easy. There are many other influences in a youngster's life besides reading. But there is one approach by which you can learn a great deal about what is really touching the heart of your little one.

Read the story *together*. Children love such attention. It provides an emotional outlet for children who love to read, while encouraging those not so fond of reading. In fact, some teachers hold that if parents read to their small babes who cannot yet read, this forms within the child an early favorable impression or "tendency" toward reading.

And you may be surprised at some of the conclusions your youngster may draw or what aspects of the story fascinate him or her. Ask your child: "What did you think of that person?" "What did you like best about that story?" Considering the responses, you may want to make adjustments, perhaps balancing the amount of fiction material with more nonfiction. This has the added benefit of encouraging your child not only to read about the adventures of others but also to learn to do things.

Of course, this approach does not eliminate the need to think about what books will be allowed in your home. For example, you will likely want to screen the modern stories in the fiction category. Should you not be the one to decide just when you want your child to learn about sex, pregnancy and abortion? Likewise, while it is true that young ones should be taught that good people can make mistakes, are they really helped in their personality development by reading about victorious villains?

Similarly, do you want your child to believe that "might [power] makes right"? Rather, should not children be taught that there are right and wrong courses to take and that principles are important? Many believe that comic books that portray "superheroes" who destroy everything that stands in their way are a dangerous "model" or example for young ones.

Even in the area of nonfiction books, parents may find it worth while to leaf through the book before giving it to the

child. Some books present certain races or nationalities in a bad light. Others contain very dogmatic statements.

For example, a book on science may present matters in a very matter-of-fact manner. It may assert that all life on earth evolved from lower forms and thus imply (or even state) that the Bible account of creation is simply a 'religious myth.' This may contradict the religious training the youngster is receiving. While father or mother might decide that the overall value of the book justifies the child's reading it, the parent may first want to discuss with the child certain views presented in the material.

All of this takes time. But it says that you care. You want your child to learn but you want him to know what is for his good and happiness. The realities of this world cannot be escaped. There is a time and a way to approach them with each child. Yet, since that small, new life—usually full of wonder and eagerness to learn—is entrusted to you, do not underestimate how much your guidance, your love, can assist in the mental and emotional development of your youngster.

In addition, the wise parent recognizes that all of us—including small children—have a spiritual need. Little ones are often full of questions; sometimes they ask very hard questions. God's Word, the Bible, is a rich source of wisdom. It can "give to the inexperienced ones shrewdness, to a young man knowledge and thinking ability." (Prov. 1:4) Reading the Bible with your children will naturally bring you into discussions about the really important things. Most who have persisted in using the Bible as a moral guide have come to see it as more than fine literature, but as a needed "light" in life.—Ps. 119:105, 160; 36:9.

There is more literature available to children than ever before. Also, there is much competition for your child's time—

television and increasing recreational possibilities. You are right in encouraging your children to read. But you are wise to take an interest in what they read, to guide their youthful energy.

Perhaps in the final analysis it is as the philosopher Bacon once wrote: "Some books are to be tasted, others to be swallowed, and some few to be chewed and digested."



CLIMBING EGYPT'S PAST

"**H**OW do you say 'pyramids' in Arabic?" I ask as I settle myself behind the driver in a Cairo taxi. "How many pyramids?" he counters. Wanting information, and not a verbal duel, I respond, "Any pyramid!" "We cannot say in Arabic, as you do in English, *a pyramid* or *pyramids* or *two pyramids* or *three pyramids*," he explains. "You have one singular word and one plural word. But Arabic has a singular word, a plural word for two and another word for three or more."

The taxi threads its way through the now thinning flow of vehicles, men in long robes and shrouded women carrying young children astraddle one shoulder. Note the

dogs, goats and swirling dust. We are turning toward the Plain of Gizeh.

Suddenly, there they are! Head, shoulders—all of me to the waist—are thrust through the open taxi window. I am amazed to see with my own eyes the only remaining one of the seven wonders of the ancient world—the pyramids. The three at Gizeh were built by Cheops, Chephren and Mycerinus.

Fumbling with unfamiliar Egyptian piasters, I pay the driver, and find myself standing in the only available shade. It is a little patch of shadow cast by a towering Arab guide. He promises to take me into the Great Pyramid's chambers and

up the outside to its top. Promptly, he plunges across the sand. I tag along, accepting his helping hand as we climb 55 feet (17 meters) above ground level to the entrance.

Inside the Pyramid

The sudden darkness inside does not have coolness as its companion. The air is hot and foul. We are going downhill, crouching in a tunnel called the Descending Corridor. Just a little less than three and a half feet (1 meter) wide and nearly four feet (1.2 meters) high, the corridor pitches downward at an angle of 26 degrees. We follow it for about 60 feet (20 meters) and then abruptly climb upward at the same 26-degree angle for another 129 feet (39 meters).

Suddenly all that I could see ahead of me—the stooped stern of the guide—disappears. He has stepped into the room that I now enter. Through the centuries it has been misnamed the “Queen’s Chamber.” However, no queen ever rested here or was intended to. Actually, it is the second of three burial chambers built in the pyramid for the pharaoh. The first is in the bedrock *beneath* the pyramid. But why were there three burial chambers? A good guess seems to be that over the 23 years of his reign Cheops decided that neither the original nor the second burial plans suited his increasingly majestic standards. So, this second room, measuring 18 feet, 10 inches, by 17 feet, two inches (5.7 meters by 5.2 meters), was left unfinished while masons worked above it on the room that would eventually receive his mummy.

After retracing our steps down the corridor that we had climbed, we turn upward from our cramped passage to the incline of the Grand Gallery. I unfold upward, glad to straighten my back. Perspi-

ration stings my eyes and stains my clothes. The comparative spaciousness of the Grand Gallery (28 feet [8.5 meters] high and 153 feet [46.6 meters] long) gives the illusion of a freshening of the dead air.

The guide reaches back to help me up the high step at the upper limit of the Gallery. Again, single file, we “shrink” ourselves as we pass into a narrow passage. At about a third of its length, the passageway extends upward and outward to form an antechamber.

It is anticlimactic to step into the large room (34 by 17 feet; 10.4 by 5.2 meters) that once received Cheops’ bound and unguent-laden corpse. The lidless granite sarcophagus is not centered in the room.

Is that a breeze? Not quite, but a difference in the air. Does my nose, so long rebelling at this fetid air, detect something fresher? My guide glides across the room beckoning me to follow. He indicates a ventilation shaft. I smile. My nose would too, if it could.

We next retrace our route to the Grand Gallery. It had been built with “plug” blocks stored in it for sealing the Ascending Corridor directly below it. Workmen, after the pharaoh was interred, and after mourners and priests had left, released the blocks to catapult down the narrow Ascending Corridor. In effect, that narrow tunnel became a huge “lock,” with the blocks corking the entryway. How did the workers get out? A crude tunnel had been constructed by means of which they could bypass the plug blocks. This passageway was sealed over with facing stone so that the “escape tunnel” could not be detected.

The Climb Upward

Outside, we are now ready to climb the pyramid. For all its stepped appearance, the structure is not a staircase. Each block

is roughly one yard (1 meter) high. However, windblown sand has weathered many blocks and, over the centuries, vandals have helped to whittle some others. Guides have laid out serpentine routes, taking advantage of these declivities. But still, at many levels, there is nothing to do but hook a knee over a block and jack oneself up to another terrace. We pause many times. The view of Cairo on the horizon and of the desert below is dazzling. The wind that wraps itself about the pyramid like a gauze scarf is hot and dry. Still, my rate of perspiration is a bit ahead of its rate of evaporation.

At last, one hour later, the top! As I cock my camera, my guide stands, arms akimbo, feet widespread, the wind billowing his garment. Behind him the limestone cap of Chephren's Pyramid is framed in my viewfinder. Not just the capstone, but about 10 courses of blocks have been removed. So, the pyramid has "shrunk" from a height of 481 feet (146.6 meters) to 455 feet (138.7 meters). Far below, the Sphinx appears as if it were a paper-weight nestled in the sand. My little platform at the apex began as 13.1 acres (5.3 hectares) down below!

Why a pyramid? It was not meant to be a stone tent. The workmen seem to have

congealed in stone the slanting rays of the sun. Inscriptions made by workers, and present-day estimates, seem to indicate that the task was not accomplished with slave labor but that about 4,000 conscripted Egyptian laborers were on the site at a time.

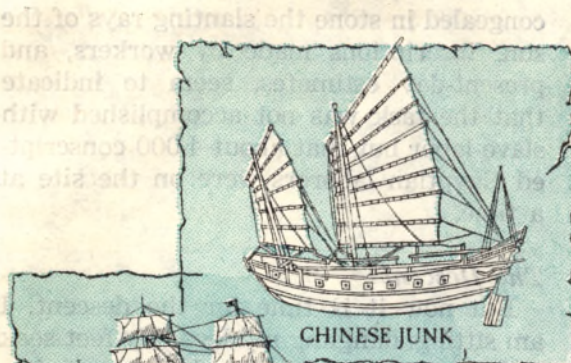
The Descent

But now it is time for the descent. I am sitting, dangling my legs. My feet seek the tier below, while I edge myself forward. More or less, *that* is how it is done. Thirty minutes later, I stand at the base of the pyramid, dusting the well-worn seat of my slacks. And am I thirsty!

To my delight, I had already found that Egyptian lemonade is not the pallid fluid passed around in summertime in the United States. It is lemon juice, only slightly stretched with water and sweetened with considerable sugar. After drinking about a quart (1 liter), I heave a great sigh of satisfaction. Sorely tempted to try yet more lemonade, I resist and head for the taxi stand.

I climb in wearily. We turn toward Cairo in a small man-made tornado of dust and engine exhaust. Should I ask, How do you say *hotel* in Arabic—one hotel?—*Contributed.*





CHINESE JUNK



GREEK WARSHIP



CLIPPER SHIP

Plying Ocean Highways

By "Awake!"
correspondent
in Hawaii



"SANTA MARIA"

FOR thousands of years vessels that ply the world's waterways have served numerous purposes, including transportation of people, food and property.

The sight of a huge ship, sailboat or other vessel atop the waters often stirs our imagination. Each of the seven seas has its own distinct ships and they differ from one another as much as the various peoples who built them. A brief look at the history of boats and ships brings to light some interesting facts.

Ancient Types Still in Use

The oldest representations of boats known today come from Egypt. They include pictures of the boatlike papyrus raft, a mode of transportation that has survived into modern times. Today these rafts, paddled by hands and feet, can be seen on the Nile River as well as the bay of Lake Chad in Africa.

Another ancient method of plying the waterways appears on a relief from Nineveh dating to about 700 before the Com-

mon Era. Passengers and goods were kept afloat by means of inflated animal skins. The counterpart of these Assyrian vessels can be seen today in Tibet. Another Tibetan boat consists of hides stretched over wooden ribs.

Perhaps one of the best known ancient boats is the hollowed-out tree trunk, known as the dugout. This, too, is still in use in parts of Africa, South America, Australia and remote districts of Scandinavia.

Larger Ships of Antiquity

In the valley of Deir el-Bahri, Egypt, is a temple containing an interesting row of reliefs. They represent an expedition of Queen Hatshepsut that took place perhaps in 1500 B.C.E. The relief depicts a ship carrying two huge obelisks. One of these obelisks has been found and, judging from its height and weight, a ship capable of carrying two of these must have been about 200 feet (60 meters) in length and 80 feet (24 meters) across at its greatest breadth. Unloaded, such a ship would

weigh 800 tons and, with a full load, 1,500 tons! This would make it the most remarkable vessel ever built in Egypt.

A prominent trading and seafaring people of the ancient world were the Phoenicians, who inhabited the Mediterranean seacoast. They were renowned for their ability as sailors and navigators. The Phoenicians not only conducted trade throughout the Mediterranean, but circled the tip of Africa to the south and reached as far north as England.

The Phoenicians left no description of their ships. However, in picturing the Phoenician city of Tyre as a pretty ship, the prophet Ezekiel gave details that evidently provide a description of a Phoenician ship. It had planks of durable juniper, a single mast of cedar from Lebanon and oars of "massive trees" from Bashan, probably oak. The prow, likely high and curved, was made of cypress wood inlaid with ivory. The sail was of colored Egyptian linen, and the deck covering (perhaps an awning above the deck to provide shade) was of dyed wool. The ship's seams were caulked.—Ezek. 27:3-7, 27.

Vases and dishes from the sixth century B.C.E. bear pictures of Greek warships. Of all the craft known from classical times, these were the lightest and most elegant. Some of them were so light that crews could haul them ashore for an overnight stay. The Greeks also built galley ships with three, four and five banks of oars.

A discussion of ancient ships would not be complete without mention of the Orient. The oldest known description of a merchant ship from the Orient was given in the thirteenth century of the Common Era by Marco Polo. He describes a Chinese junk as follows:

"[It has] a single deck and under this space is divided into 60 small cabins. . . . each furnished as a small living quarters

for a merchant. . . . some vessels of the larger sort have their hulls fitted with 13 partitions which are made of thick planks joined together. The purpose of these is to protect the vessel if she springs a leak. . . . or if hit by a hungry whale—an occurrence which is by no means infrequent."

The Chinese still carry goods and passengers along coasts and on rivers by means of junks. These are sturdy wooden vessels that have their sails parallel to the length of the boat.

Sailing Ships Further Developed

The fifteenth century C.E. began a period known as the 'Age of Discovery.' This was a time when ships set out on vast bodies of water in search of new lands. A person deeply interested in that activity was the Portuguese prince who came to be called Henry the Navigator. He sent expeditions of ships south along the coast of Africa in hopes of eventually finding a sea route to India. Thereafter many other nations and individuals became interested in reaching the "Indies," which at that time included India, China, the East Indies and Japan. They desired quicker access to the gold, gems, drugs and spices, which hitherto had reached Europe only by long and costly overland caravans.

Because of this interest, between the years 1400 and 1514 C.E. the sailing ship underwent more profound development than it had for several thousands of years. In time ships with two masts began to appear; then ones with three and even four masts. As ships became more complex, the number of their sails increased, some having more than 30.

According to the book *Ships* (part of the *Life Science Library*), during the fifteenth century, ship designers "in a burst of inventiveness and creativity . . . produced the first, classic full-rigged ship: three masts, with large square sails on

foremast and mainmast; a lateen [triangular] sail set on the mizzen [mast furthest back]; and, frequently, a rather large sprit-sail set forward of the stem, below the bowsprit."

Concerning ships that traveled to America under the leadership of Christopher Columbus, the same publication states: "Though no drawings or specifications survive, we know that Columbus' flagship, the *Santa Maria*, was such a ship. So was the *Pinta*, and so, after her rerigging from a three-masted lateener, was the Admiral's favorite, the *Niña*, except that she carried no topsail or spritsail."

It was Columbus' contemporary, Vasco da Gama, who found the long-sought sea route to India. Thereafter Portugal held a monopoly on Indian waters for a century. Eventually this monopoly was broken by the Dutch, the French and the British. The costly cargoes carried on this sea route brought about widespread piracy. This made it necessary to outfit ships with weapons. These combination merchant ships and warships became known throughout the world as "Indiamen."

Shipbuilding in America

The discovery of America and the "New World" created further needs for shipping. A lively trade was established between Europe and America. Also, there was trading up and down the coast of America, between the northern and southern colonies. This called for an American merchant fleet. Shipbuilding became a leading industry in the new American colonies.

Among the most famous of all American merchant vessels was the "clipper ship." It was *the* ship of the middle and later 1800's. The clippers won praise for being the most beautiful and fastest of all ships. They cut in half the time former-

ly required for voyages to China and Australia. The swiftness of these vessels led to their name "clipper," from the word *clip*, meaning "to move swiftly." Most famous among the clipper ships was the Cutty Sark. It was 212 feet (65 meters) long and 36 feet (11 meters) wide, and had three masts and 34 sails.

It was in the year 1807 that New York's Hudson River became the scene of action for the first truly successful steamship. This was the *Clermont*, a long, slender vessel about 140 feet (43 meters) in length and 15 feet (4.5 meters) wide. It had side paddle wheels that measured some four feet in width and 15 feet in diameter. Later, seagoing steamships went into operation. Eventually a propeller at the stern replaced paddle wheels.

Then came iron vessels, which proved to be stronger, safer and more economical than wooden ones. Twentieth-century advancements have produced massive cargo ships, luxury passenger liners, tankers, refrigerated ships and nuclear-powered vessels.

Many have been the benefits that mankind has derived from ships. Not to be overlooked is the fact that in 1961 the first transoceanic multipurpose cable between Canada and Great Britain was laid from a ship. During the last two decades ships have been involved in laying numerous transoceanic telephone cables connecting the United States mainland with Hawaii and other parts of the Pacific. Similar cables reach the Orient, parts of South America and islands of both the Atlantic and Pacific Oceans.

Though aircraft handle much passenger and cargo service today, ships are and will continue to be a lifeline to many areas inaccessible by air. Plying ocean highways evidently is here to stay.

The Bible's View



How Are Tests of One's Faith Beneficial?

SERVANTS of God cannot escape trials. The apostle Paul wrote: "All those desiring to live with godly devotion in association with Christ Jesus will also be persecuted." (2 Tim. 3:12) That persecution may come from friends, relatives, neighbors, the community or governmental authorities. It may include both verbal and physical abuse as well as interference with a person's making a living. Additionally, true Christians share the problems that are common to mankind—sickness, disappointments, injustices and tragedy. All such trials put a person's faith to the test.

Nevertheless, there are positive aspects about having one's faith tested by trials. The apostle Peter called attention to this, saying: "You have been grieved by various trials, in order that the tested quality of your faith, of much greater value than gold that perishes despite its being proved by fire, may be found a cause for praise and glory and honor at the revelation of Jesus Christ." (1 Pet. 1:6, 7) Thus the effects of trials on one's faith are paralleled with the refining of gold by fire. The refining process reveals what is pure gold and removes the dross. Something comparable takes place in connection

with our faith when we experience trials. How so?

Trials reveal whether our faith is genuine and has the strength to support and comfort us in time of difficulty. For example, an accident or a natural disaster such as a flood, an earthquake or a storm may result in hardships. Persons with limited faith may begin to worry unduly, to the neglect of spiritual things. Like those without faith, they may anxiously say: "What are we to eat?" or, "What are we to drink?" or, "What are we to put on?" (Matt. 6:31) On the other hand, persons with genuine faith do not give way to undue anxiety. They continue to be fully absorbed with spiritual things, confident that Jehovah God will bless their efforts to procure what they really need. (Matt. 6:32, 33) Their faith sustains them through difficult periods and prevents them from worsening their situation by needless worry.

The fact that trials can show up weaknesses in our faith is most beneficial, as we are thus helped to see the need to take corrective measures. A person does well to ask himself: "Why is my faith weak? Have I neglected prayerful consideration of and meditation on God's Word? Have I taken full advantage of the provisions to assemble with fellow believers? Do I rely more on myself than I should instead of committing all my concerns prayerfully to Jehovah God? Are heartfelt prayers a daily part of my life?" Such self-examination, however, is only the beginning. Effort must be put forth to strengthen one's faith.

This may require that a person improve his spiritual appetite. Perhaps at the time of his becoming a disciple of Jesus Christ he had not as yet formed "a longing for the unadulterated milk belonging to the word." (1 Pet. 2:2) Therefore, though years may have passed, he may not have grown to spiritual adulthood and may still need

the very milk for which he has never formed a real longing. (Heb. 5:12-14) The fact that a particular trial has clearly revealed a weakness in his faith should certainly prompt him to be far more diligent in examining the Scriptures, cultivating a real taste for spiritual food. He should strive to be like the righteous man described by the psalmist: "His delight is in the law of Jehovah, and in his law he reads in an undertone day and night." —Ps. 1:2.

This calls for more than merely reading the Bible. It is especially important to take the time to think about what God's Word is telling us and to apply the admonition given, yes, to find real pleasure in spiritual things. The disciple James wrote: "Become doers of the word, and not hearers only, deceiving yourselves with false reasoning. . . . He who peers into the perfect law that belongs to freedom and who persists in it, this man, because he has become, not a forgetful hearer, but a doer of the work, will be happy in his doing it." (Jas. 1:22-25) So, we need to consider what the Scriptures reveal about Jehovah God and his will and then reflect appreciatively on the loving heavenly Father that he is. As a result, our love for him will grow, our prayers will be more specific and personal and our faith in him will become stronger.

Actually, every trial that we may experience should remind us of how important it is to strengthen our faith. We should exert ourselves to remove from our lives any dross that would weaken it. We may need to fight pride, stubbornness, impatience, selfishness, love of ease and pleasure, worldliness or passion—things that could cause us to stumble under pressure.

The realization that faith is an absolute essential in our gaining God's approval should serve as a powerful incentive to strengthen it. The Bible reminds us: "Without faith it is impossible to please

him well, for he that approaches God must believe that he is and that he becomes the rewarder of those earnestly seeking him." (Heb. 11:6) Hence, we do well to include the substance of the following petition in our prayers: "Help me out where I need faith!"—Mark 9:24.

Besides aiding us to take corrective measures, tests of our faith can help others. For instance, when a Christian loses a loved one in death, his strong faith in God's promise of a resurrection sustains him. He does not give way to the extreme expressions of sorrow common among persons who have no hope. While he mourns, his attitude and actions demonstrate that he is acting in harmony with the inspired counsel: "Brothers, we do not want you to be ignorant concerning those who are sleeping in death; that you may not sorrow just as the rest also do who have no hope. For if our faith is that Jesus died and rose again, so, too, those who have fallen asleep in death through Jesus God will bring with him." (1 Thess. 4:13, 14) When others observe the sustaining power of a Christian's faith, they may come to appreciate that he possesses something truly valuable. This may stir within their hearts a desire to have like faith and may move them to take action to learn about God's Word, and finally to become disciples of Jesus Christ.

Surely, there are benefits in having our faith tested. Such trials enable us to see whether our faith has real sustaining power. We are aided to spot weaknesses in our faith, and this puts us in a better position to correct matters. Finally, our passing through tests successfully may aid others, also, to become disciples of Jesus Christ. So, may we do our utmost to maintain strong faith, faith that, after being subjected to one trial after another, "may be found a cause for praise and glory and honor at the revelation of Jesus Christ." —1 Pet. 1:7.



Watching the World

Humility, for a Change

◆ Instead of praising all that scientists know, an encyclopedia of what they *do not know* was recently published in England. Of the 58 prominent scientists who contributed, say the editors, "the more eminent they were, the more ready [they were] to run to us with their ignorance." The 450-page *Encyclopædia of Ignorance* poses unanswered questions about the origin of the universe, why we sleep, what consciousness is, where and how the brain stores memories, and many others. "We understand how an organism can build molecules, although the largest of them is far too minute for us to see," writes Nobel Prize-winning molecular biologist James Crick, "yet we do not understand how it builds a flower or a hand or an eye, all of which are plainly visible to us." The editors declare: "Compared to the pond of knowledge, our ignorance remains atlantic."

India's Surgical Advance

◆ "Dr. Shrad Pandey of the KEM hospital Bombay is blazing a new trail in the field of open heart surgery in the country," declares the *Indian Express*. "He claims to be the first surgeon [in India] to have perfected the technique of 'bloodless open heart sur-

gery.'" The Indian surgeon says: "I had my own apprehensions about the surgery being tried out on Indians because they were nutritionally poor when compared to foreigners. But an eminent Canadian surgeon, Dr. Heimeacker with whom I trained abroad, allayed my fears and said it could be tried out on anyone with normal health." Dr. Pandey notes that he has performed bloodless open-heart surgery on about 30 patients without complications.

Budding Bishop

◆ The Italian newsmagazine *Oggi* recently did some research on Adolph Hitler's youth by interviewing his close relatives in Austria. "When he came to our home in Spital, (at age 7)," recalled Anton Schmidt, a claimed first cousin, "he built an altar with some benches and pretended to officiate mass." Young Adolph, who wanted to become a bishop, according to relatives, then imitated typical clerical pomp. "He demanded that all his playmates kiss his hands," said Schmidt.

"Soft" Drug—"Soft" Head?

◆ Prominent brain researcher Robert Heath reports microscopic permanent changes in the brain anatomy of rhesus monkeys that smoked marijuana. They smoked the equiv-

alent of one cigarette a day, five days a week, for six months. Changes involved "an enlargement in the 'synaptic cleft,' the gap across which one nerve sends its signal to the next and certain other changes within the brain cells," says the *New York Times*. Similar changes observed previously were produced with much higher doses of marijuana.

Man Moves—Animals Stay

◆ After declining to just about 1,900 by 1973, India's tiger population is now on the rise again. The government began "Project Tiger" that year to stem the losses. In addition to strongly enforced bans on shooting the creatures or exporting their skins, the relocation of whole villages, some of them 300 years old, was also begun so that humans would not come into territorial conflict with the tigers. Most villagers moved willingly to benefit from the improved housing, schools and medical services offered by the government, as well as the financial aid for starting new farms.

Bed for Sick Child?

◆ "If you make a great fuss about each of your child's symptoms, put him to bed, give him medicine, keep him off school and call the doctor for every trivial symptom," writes Dr. Ronald Illingworth, professor of child medicine at Sheffield University, England, "you are making your child a hypochondriac for life." Citing hospital research indicating that feverish children who are allowed to get up appear to recover just as quickly as those who stay in bed, Dr. Illingworth asserts: "I see no reason for keeping children in bed for chicken-pox, mumps, measles [German measles], whooping cough [glandular fever], colds, diarrhoea, sore throats, headache, cough, asthma or abdominal pain if they are well enough to be up and

want to get up. . . Naturally, a feverish child with measles would often prefer to be in bed, but as soon as he wants to get up he need not be prevented." Of course, this is only one viewpoint.

"Birching"—Bad?

◆ The custom of "birching" young offenders on the Isle of Man, a British possession, has come under attack as "degrading punishment." The European Human Rights Commission has brought the charges before the European Court of Human Rights at Strasbourg, France. But an island legislator says birching is "the insurance premium paid to protect us from violence." Only young wrongdoers between 15 and 20 years of age are whipped with the prescribed birch twigs for up to six strokes. Violence among the island's 60,000 inhabitants is somewhat lower than in Britain, which outlawed birching in 1948.

Amazing Burn Survival

◆ The New China News Agency claims that surgeons in Shanghai have saved a woman with burns over virtually 100 percent of her body. Of these, 94 percent were third-degree burns (completely through the outer skin). A factory fire injured the 36-year-old woman last June, after which skin grafting proceeded, surgeons using skin from her scalp and soles of her feet about once every three days. "Now the new skin has grown well all over her body," says the agency, and "she has begun to practice walking." Reuters news agency notes that "Western medicine has rarely saved anyone with over 80 per cent third-degree burns."

"Benefit for Everyone"

◆ The *Journal of the American Medical Association* reports that artificial hip surgery performed without blood transfusions is now routine at

the University of Arkansas Medical Center, U.S.A. The professor of orthopedic surgery who heads the team of physicians explains that the anesthesiologist uses chemical techniques to lower the patient's blood pressure and thus reduce bleeding. The method was developed for Jehovah's Witnesses, he says, "and I think you can fairly say that working with Jehovah's Witnesses has been a benefit for everyone." He notes that "there are many things we've learned," and says: "We've now applied this technique to patients other than Jehovah's Witnesses who are undergoing surgery—orthopedic and otherwise—because it is a superior form of anesthesia, and it's logical not to lose all that blood. . . . Transfusion reactions are avoided as well."

Who Owns Your Body?

◆ The New Jersey Superior Court, U.S.A., recently ruled that a 72-year-old man could decide for himself whether to allow amputation of both his legs, though doctors claimed that his life was at stake. The judge said that he "has the right to consent to the amputation of his legs or to withhold such consent regardless of the consequences." The hospital had tried to get a court order to force the operation, as is often done in an effort to force Jehovah's Witnesses to accept blood transfusions.

Forced "Charity"

◆ An employee of the Kansas City, Missouri, U.S.A., YWCA (Young Women's Christian Association) was fired because she gave only \$10 to a charity drive. Her supervisor said that she should have given at least \$27.60, in keeping with YWCA policy of donating an hour's pay each month. The employee and her husband had decided to give more to their own church's educational fund. "Holding a job over somebody's head for a certain dollar amount sort of takes the

love out of charity," he remarked. The YWCA headquarters in New York denied requiring minimum contributions.

More Tobacco Woes

◆ Nicotine accumulates in the breast fluid of smoking women, according to a recent report in *Science* magazine. A researcher notes that nicotine buildup occurs in the ducts of the breast, where cancer begins. The drug was detected in women's breast fluid within 15 minutes after smoking a cigarette.

Polycythemia, a disease that causes headaches, fatigue and fainting, is most likely to strike smokers, according to a report in the *New England Journal of Medicine*. The disease reduces the oxygen supplied to the body through the blood. "People who have this disease are essentially asphyxiating themselves," says the report. An accompanying editorial in the *Journal* declares: "Cigarette smoking far exceeds as a public health hazard saccharin, radioactivity, food dyes, freon propellants, asbestos and the many other environmental toxins and potential toxins that have generated great public and governmental concern."

Fixing Responsibility

◆ The Chicago, Illinois, city council recently passed an ordinance requiring parents to pay for vandalism committed by their children. One supporter said that the law was aimed at combating "parental delinquency." Suburbs that already have similar ordinances "have reported marked decreases in vandalism," notes the *New York Times*.

Double Standard?

◆ Recently a Japanese film director and a book publisher went on trial for violating obscenity laws. It was charged that a book version of one of the director's films contained material constituting "indecent

exposure" in the Criminal Law. Yet the next day Japan's Supreme Court acquitted another man "who had been indicted for possessing pornographic pictures for the purpose of selling them abroad," reports Tokyo's *Daily Yomiuri*. According to the Court, the Criminal Law banned distribution only in Japan to defend good morals, while sales overseas did not violate the law.

Sporting Spirit in U.S.A.

◆ To instill a winning spirit in his football team, a Florida high-school coach admits that he would bite the heads off live frogs during pregame pep talks. "Our kids loved it," he claims. Officials ordered him to stop.

Parents in Massachusetts are taking their 8- to 10-year-olds' hockey playing too seri-

ously, according to the New York *Times*, which says: "Parents have verbally attacked other parents, anonymous threats have been made to coaches, lawyers have become involved and some parents are threatening to sue other parents. . . . On at least one occasion, parents have exchanged punches."

Odyssey of Wealth

◆ The Queen Elizabeth 2 sailed in mid-January for a 90-day cruise of the Pacific, the longest and most luxurious of the ship's career. Her 1,400 passengers are indulged with tons of caviar, lobster, champagne and other delicacies on the 36,000-mile (58,000-kilometer) journey. They are pampered and entertained by 1,000 crew members, 690 musicians, 120 nightclub performers and 217 lecturers. What

does it take to go on such a cruise? One indication is that each of two new penthouse suites went for \$160,000.

Biggest Filmmaker

◆ The federal government is by far the biggest moviemaker in the United States. About 2,300 films and tapes reportedly are produced each year at a cost estimated at \$500 million. According to *TV Guide* magazine, film titles include "Fuel Pump Disassembly," "Hack-saws, Part III," "Hospital Housekeeping: Mopping, Two-Bucket Method," and "Climbing and Working on Poles." A dozen films on how to brush your teeth are also available, including "Oral Hygiene—Swab Your Choppers." Some officials have complained of unnecessary duplication and waste in government films.

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