Awake!

MAY 8, 1978

a Recording Artist finds something far better

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Awake!®

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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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Could "Cooperative Education" Help You?

By "Awake!" correspondent in Hawaii

"MOTHER, I've been thinking about what I'd like to do after graduating from high school," remarked a 15-year-old girl. If you are a parent or youth still in school, no doubt those words have a familiar ring.

Wisely, the mother of Deborah, the girl just mentioned, did not let that seemingly passing remark by her daughter end there. Realizing that the girl was serious, the mother suggested that they discuss the matter with her father that evening.

During the family discussion, Deborah said that she did not wish to attend college. Instead of pursuing higher education, she wanted to learn to be a dental technician or a layout artist for an advertising firm or a daily newspaper.

Does a similar desire affect you or your family? It may be that Deborah's experience can help you to take steps toward gaining maximum benefits from high school years.

Learning About "Cooperative Education"

That family conference was just the beginning. A few days later, Deborah's parents visited her high school for an interview with a special career-oriented counselor. Possibly, the high school in your community has one of these advisers. The service that they provide may be very helpful. They can arrange for thorough aptitude testing of students, interpretation of such tests, and realistic matching of natural abilities with personal interests.

Deborah's parents were surprised to learn that her school, though stressing college preparation, offered a number of alternative education programs, including "Cooperative Education," sometimes called "Cooperative Work Experience." This means training conducted by a school in cooperation with the local business and industrial community. "This arrangement," the counselor pointed out, "allows for the students to receive valuable *on-the-job*

work experience, earn credit toward their high school diploma and receive a minimum hourly wage or better, all at the same time." The student goes to school part time and spends the rest of the time in the chosen field of work.

In Deborah's case, this program would require that during three years of high school (sophomore, junior and senior years) she earn the normal eight "solid" credits in academics. These usually include three units in English, two in math, two in social studies and one in science.

The difference would rest in her "electives." Normally these total seven to nine credits over the three high school years and involve courses such as physical education, music, library science, senior seminar, student government, art, and so forth. Cooperative Education takes the place of electives such as these. In their place is work-related classroom instruction and, later, actual experience on the job.

Diversified "Career Occupation Clusters"

The counselor explained that Cooperative Education involves a wide range of "Career Occupation Clusters." These are overall areas of work that can cover hundreds of related fields. For example, the general area of "Health" would include dental technology, one of the fields of Deborah's interest.

The available career clusters are quite diversified. Some examples are "Agriculture," "Health," "Manufacturing," "Transportation" (auto mechanics, body and fender repair, heavy-equipment operation and maintenance), "Construction" (carpentry, drafting, masonry, plumbing, fundamental electricity), "Business and Office" (accounting, secretarial and general clerical training), "Communication and Media" (graphic arts, radio and television service, technical electronics), "Environment," and "Consumer and Homemaking."

Deborah chose dental technology. As a result, she enrolled in an on-campus program that covered work attitudes, technical terminology, proper dental-office manners, general office routine and common office forms used by dentists. By the end of her sophomore year, two dental clinics offered to take her in under the Cooperative Education program so that she would go to school half a day and spend the other half working at the clinic.

When the Family Moved

During the summer, between Deborah's sophomore and junior years, a change in her father's employment made it necessary for the family to move to Guam, a United States territory. Would this put an end to Deborah's opportunities for Cooperative Education? By no means.

Prior correspondence with public school officials in Guam revealed that they had a vocational-technical high school with a similar arrangement. Of course, the types of programs available in different areas vary according to the needs of the local job market. Deborah learned that her new school did not include the field "Health," with its subdivision of dental technology.

Yet, the school did offer "Communication and Media." This features training in graphic arts and includes advertising art and newspaper layout work, Deborah's other area of interest. Within three months of settling in Guam, Deborah accepted an assignment as a trainee layout artist on the editorial staff of one of the island's two daily newspapers.

The program was well supervised. Each month the Cooperative Education coordinator conducted with Deborah and her work supervisor or employer a "trainee evaluation study." Items on which she was graded included grooming, attitude toward work and training, ability to communicate, knack at planning work and working under minimum supervision,

capacity for cooperating with fellow workers and accepting responsibility, safety habits, efficiency at using tools and materials, application of techniques and methods as instructed, and degree of advancement in skills and knowledge.

Persons who enter such programs must be willing to put forth effort. A youngster must have, at the time of enrollment and throughout the enrollment period, superior attendance and average or better academic achievement. Too, there is need for endorsements from both the school instructor in the chosen vocation and the Cooperative Education coordinator. This is to verify that the student is ready for on-the-job training.

Does Cooperative Education interest you? If so, likely you will profit from discussing the matter as a family. Then get in touch with your local school guidance counselor. He can be of help in selecting an appropriate type of work. For many who do not wish to attend college, Cooperative Education may open up fine opportunities.

BACTERIA — helpful or harmful?

By "Awake!" correspondent in France

WHEREVER we may be, we are surrounded by countless numbers of living creatures invisible to the human eye. Some of them can be regarded as true friends, others as mortal enemies. Who or what are they? They are bacteria, yeasts, molds and other life forms designated by the general term "microorganisms," because these tiny creatures can be seen only through a powerful microscope.

Bacteria are to be found everywhere—in the air, water, soil and in living beings. They are able to act on or alter almost every element on the face of the earth. In fact, their ability to produce chemical changes makes the most ingenious chemists feel green with envy and quite powerless.

In this connection, biochemistry professor John M. Wood stated in the September 1976 issue of the French scientific monthly *La Recherche:* "It is widely known that microorganisms synthesize organic compounds more easily and efficiently than our best industrial chemists." He also noted that bacteria are able to cause chemical reactions while "breaking long-established rules of organic chemistry." How frustrating for the chemists!

Are you not curious enough to learn a little more about bacteria? Let us take a close look at them, peering into their way of life, finding out what causes them to die and, while so doing, discovering their usefulness to man, as well as the trouble they sometimes cause.

A Varied Diet

Basically, food for any living organism serves a double purpose. It provides substances necessary to the growth or renewal of cells, and it produces energy. Minute as they may be, bacteria also need to eat and throw off wastes. They draw upon an infinite variety of foods.

Some lead a really "ascetic" life, contenting themselves with dull fare: the simple elements of carbon dioxide and nitrogen from the air. Others are harder to please and require carbohydrates and ammonia, or more complex nitrogen molecules, such as amino acids. Still others are even more fussy; they need vitamins.

Both men and animals draw their energy from the oxidation of foods like sugars and fats. Breathing supplies oxygen so that these "fuels" oxidize or burn in the body. Similarly, many bacteria, called "aerobes," use oxygen from the air. The energy so obtained is released as heat or stored in small molecules (such as those of ATP [adenosine triphosphate]). These compounds, in turn, serve as a source of energy, powering the many chemical reactions that take place inside bacterial cells. Did you know that it is one of these aerobes (*Acetobacter aceti*) that causes wine to turn into vinegar?

For other bacteria, the combustive agent or fuel is not oxygen but various mineral compounds. For instance, some use nitrates and sulphates for this purpose, transforming them into nitrites, nitrogen or hydrogen sulfide, a gas easily recognizable by its foul smell, resembling that of rotten eggs. This type of bacterium, living in the absence of oxygen, is called an "anaerobe." Some of the microorganisms found in human intestines belong to this group.

Certain bacteria act still differently. In their case, an organic molecule plays a part similar to that of oxygen. The resulting process is called fermentation.

Actually, these categories of bacteria are quite loose, because, whereas some species use only one of these means of obtaining energy, many others adapt themselves to their environment and can be aerobic (requiring oxygen) at one time, and anaerobic (independent of oxygen) at another.

In all the foregoing examples, energy is derived from changes in chemicals at hand in the atmosphere or in the medium in which the bacteria live. But this is not always the case. In one respect, some bacteria can be compared to plants, for they draw their energy from the sun by photosynthesis. They have pigments that fix sunlight and transform it into a substance that supplies energy.

Wastes—Dangerous or Useful?

During their growth, bacteria produce substances that can often be considered metabolic wastes or by-products. Toxins that are very poisonous to man are to be counted among such wastes. Have you heard of the disease called "lockjaw"? It is caused by the tetanus bacillus, which, upon entering the body through a wound, starts producing tetanus toxin that spreads throughout the body, affecting the nervous system. The result is nearly always fatal.

Another bacterium (*Clostridium botulinum*), the *bacillus botulinus,* which is highly resistant to heat, is sometimes found in improperly sterilized canned food or delicatessen foods. It releases an extremely powerful toxin in the alimentary canal, eventually affecting the nervous system and causing paralysis. This poison, the most poisonous substance known, is two million times as powerful as arsenic. Merely tasting contaminated food may be lethal. It is so toxic that scientists estimate that just 100 grams (3.5 ounces) of this substance would be enough to sweep all human life off the face of the earth!

Now you can see why great care must be exercised in the home canning of foods. Also, one should without hesitation discard all canned foods that have not been properly heated or sterilized. Beware of any can that bulges, as the *bacillus botulinus* is a gas former (anaerobic), or that smells bad when you open it!

Fortunately, not all bacteria are so dangerous. Among the bacteria that use fermentation as a source of energy, many release wastes that are helpful to man. Did you know, for instance, that the characteristic odor of butter is due to the oxidation of acetoin, a bacterial by-product that turns into pleasant-smelling biacetyl?

Among many other good things, God has provided for mankind "wine that makes the heart of mortal man rejoice." (Ps. 104:15) Taken in moderation, wine is a pleasant and healthful drink. Well, did you know that the alcohol in wine is produced by a yeast called *Saccharomyces cerivisiae?* Although this is not a bacterium, but a fungus, the metabolism involved is the same. From this microorganism, alcohol is a by-product resulting from the breaking down of the sugars contained in grapes.

Likewise, two lactic bacteria (*Streptococcus thermophilus* and *Lactobacillus bulgaricus*) produce yogurt, a fermented milk product that originated in Bulgaria, and is mostly eaten in Europe and North America. As for *kefir,* originally from the Caucasus, and *koumiss,* common in Central Asia, both are drinks resulting from the fermentation of milk by lactic bacteria coupled with an alcoholic fermentation of the milk by yeast.

The same applies to cheese. Lactic acid, a by-product of the metabolism of sugars, acidifies milk and causes it to curdle. Other microorganisms, often bacteria or molds, produce a whole range of wastes giving the many existing varieties of cheeses their distinctive taste and smell.

Extremely Prolific

Generally speaking, bacteria reproduce by fission, which means that they split in two. When a bacterium reaches a sufficient size, it splits, resulting in two new bacteria identical to the parent cell. In turn, these two bacteria split, and so on. This phenomenon occurs at regular intervals, the time required varying greatly from one species to another, and depending upon environmental conditions. For example, if it is placed in ideal conditions, a marine bacterium called *Pseudomonas natriegens* splits every 10 minutes, whereas the tuberculosis microbe (*Mycobacterium tuberculosis*) splits only every 27 hours.

To illustrate how fast reproduction occurs and what its consequences can be, let us consider a single bacterium provided with the right conditions of temperature, moisture and food supply, and splitting every 20 minutes, as is the case with many bacteria found in human intestines. Do you have any idea of the number of bacteria there would be if reproduction continued uninterrupted for 24 hours? No fewer than 47 x 10^{20}, or 47 followed by 20 zeros! Although a bacterium weighs only about half a billionth (U.S.) of a milligram (1 milligram = .00003527 ounce), the result would be a mass of bacteria weighing 2,300 metric tons (2,500 U.S. tons). Amazing! Lower temperatures impede nearly all bacterial growth.

No wonder foodstuffs such as delicatessen foods, dairy products and sauces can be quickly overgrown with bacteria and can become unsuitable for consumption if not stored in a cold place! Being rich in nutrients, they are excellent culture media for bacterial growth. Just one bacterium is enough to contaminate the whole food item. How forceful and accurate was the apostle Paul's illustration, "A little leaven ferments the whole lump"!—Gal. 5:9.

When food is lacking, when the temperature is unfavorable and when the

wastes or by-products of bacterial growth are not removed, splitting slows down and eventually stops. The weakest bacteria die, while the others wait for better conditions. Some, well equipped for survival, form "spores," which are very resistant to heat, dryness, sunlight and disinfectants. Spores can survive for years, and some (for example, the botulism spore) can withstand boiling water for eight hours. As soon as favorable life conditions are restored, the spore germinates and develops into a bacterium similar to the prespore one, and reproduction resumes.

Vulnerability

Having considered how bacteria live and multiply, let us now see what causes them to die.

Microorganisms are sensitive to many physical or chemical agents. These agents are said to have a "bacteriostatic action" when they stop the growth of bacteria, and a "bactericidal action" when they kill them.

The sun, with its ultraviolet rays, is doubtless the oldest bactericidal agent, and one of the most efficient. Ultraviolet rays bring about mutations in bacteria, that is to say, changes in their genetic makeup, which prove to be deadly in most cases.

In general, bacteria are unable to develop in highly concentrated solutions of substances like sugar or salt. In such conditions, the water contained in the microorganisms is released through the cell wall in an attempt to dilute the medium outside (osmosis). The result is that the bacteria dehydrate and stop growing or die. This is what occurs when meat or fish is salted. Similarly, the presence of a large quantity of sugar in fruit jellies or jams helps to preserve them.

Heat is bacteria's mortal enemy. A temperature of 50 to 60 degrees Celsius (122 to 140 degrees Fahrenheit) for half an hour is sufficient to neutralize most bacteria, but those that can form spores require more stringent measures. It takes 20 minutes in a steam sterilizer to kill such germs. For this reason a surgeon's gown and the drapes over his patient are sterilized in such a manner.

Bacteria also are sensitive to many chemical substances. Knowledge of this can be put to good use in various ways, for example, in food preservation. The oldest and best-known chemical preservatives doubtless are alcohol and vinegar. More recently the chemical industry has created a wide variety of products acting either on bacteria or on fungi, and preventing their growth. Some of these chemical agents seem to be harmless, but unfortunately the long-term secondary effects of many of them are not known.

Antiseptics, too, are chemical products that are detrimental to bacteria. They are useful for disinfecting skin, clothing or rooms. Housewives knowingly or unknowingly wage war on bacteria when they use kitchen disinfectants, bleaches, iodine, carbolic acid and hydrogen peroxide.

Finally, among bacteria's enemies mention must be made of antibiotics, which, when used correctly, are extremely useful in combating certain infectious diseases.

More Good than Harm

This short study of the life and death of bacteria reveals that, although such microorganisms can sometimes be our deadly enemies, more often than not they are our precious allies. It is simply a question of keeping them under control. Yes, bacteria represent an almost invisible but important world of their own. They contribute to the indispensable natural cycles. Indeed, the life and death of bacteria are of utmost importance to the balance of plant and animal life on earth. These infinitesimal life forms therefore testify to the wisdom of the Creator of all things, great and small.

AN OIL PIPELINE FOR PERU

By "Awake!" correspondent in Peru

CAN you imagine what it would be like to be without oil or its products? There would be no gasoline-powered engines, no electricity from oil-powered generating plants, none of the many plastics that are manufactured from oil. Our lifestyles and customs would have to change drastically, for the world's modern economy is very dependent on oil.

Even now, many nations that lack oil resources of their own are being seriously troubled by current developments regarding oil reserves. In recent years scientists have begun warning that the world's oil supply possibly could run out within 25 to 50 years. OPEC (Economic Council of Oil Producing Nations) boosted the price of crude oil to over $12 a barrel. Imme-

diately the economic pinch could be felt in all the oil-importing nations. Especially hard hit are developing nations that have to import oil to fuel their economies.

Peru was among those nations that felt the effects of the oil price hike. Though for many years this republic on the western coast of South America had been self-sufficient in oil and even an exporter of it, by January of 1977 Peru was importing more than 50,000 barrels of oil a day to meet the country's internal demands. Experts said that by 1980 Peru's growing economy would require 180,000 barrels a day.

However, with daily production down to 65,000 barrels in Peru's northern oil fields, this represented a grave problem for the development of the country. Valuable foreign exchange had to be channeled into paying for imported oil. What could be done to ensure Peru's economic growth and at the same time supply the country's oil needs?

In Search of New Supplies

Peru began searching for new oil supplies. It was known that there were large quantities of oil in the jungle area of the Amazon basin. These resources had been largely ignored due to their inaccessibility. But the changed situation of the 1970's made them vital to the country's well-being.

The oil reserves were located in the heart of a tropical rain forest, one of the most difficult areas on earth to reach. Further complicating matters, most of Peru's population is found on the west coast, beyond the barrier of the Andes mountains. Could a pipeline be built to bring oil from a jungle area over mountains to the Pacific coast of Peru?

Feasibility studies were arranged by contract with a San Francisco company. During more than a year and at a cost of some 6,000,000 dollars, studies and planning of the route for a Trans-Andean pipeline went ahead. Early in 1975 construction got under way. Of course, a construction project of this scope required the cooperation and combined resources of many different firms. Some 7,000 workers were contracted, 5,000 of whom were Peruvians.

Now came the real challenge: to finish the pipeline as soon as possible. The government of Peru declared the project to be a national priority. But there were huge difficulties to face. How so?

Consider the size of the undertaking. Inquiries at PetroPeru, the national oil company in charge of development for all Peru's oil resources, reveal that the North Peruvian Pipeline (*Oleoducto Nor Peruano*) is second only to the Alaskan pipeline in size. It is 852 kilometers (530 miles) long, with the first 304 kilometers (189 miles) in the jungle being made of pipe 61 centimeters (24 inches) in diameter. The rest of the pipeline has a diameter of 91 centimeters (36 inches). Three branches of varying length bring oil from scattered fields to the main pipeline. Its cost amounted to over $700,000,000.

Contributing to the difficulties of completing this project was the varied topography that the pipeline had to cross. Peru has four great geographical areas within its borders—*selva,* or jungle, *montaña,* or high jungle, the lofty Andes mountains, and a dry coastal desert plain. Each area differs greatly from the others as to terrain, altitude and climate.

Construction in the Jungle

The greatest construction hardships were encountered in the thick, overgrown, tropical jungle of the Amazon basin. Viewed from the air, this area looks like

a solid green carpet. But under the matted vegetation are what Peruvians call *aguajales.* These are swamps devoid of solid ground. Pipeline workers had to fight their way through more than 300 kilometers (186 miles) of this covering mass of vegetation, which included many towering trees.

Workers forged ahead in the hot, humid climate that gets over 100 inches (254 centimeters) of rainfall each year. Engineers and technicians kept solving unforeseen difficulties with new methods of pipeline construction.

Work began at the pipeline's eastern terminal, San José de Saramuro. That location served as a staging area for gathering materials brought by barge from the Atlantic Ocean some 4,500 kilometers (2,800 miles) up the Amazon River to the inland port of Iquitos. From there 28 tugboats with 58 barges transported more than 100,000 tons of materials and construction equipment to crews building the pipeline. Four helicopters and two amphibious aircraft were in constant use for the delivery of emergency provisions and spare parts.

Much of the first 304 kilometers (189 miles) of pipe was laid in two sections under water, following the course of the Marañon River, a principal tributary of the Amazon. Here major problems arose. It was necessary to scoop out special channels for the pipe. Then welded sections were floated into position and submerged.

Workers housed on special barges had to wade into neck-deep muck in swamps where poisonous snakes and insects lurked. Although expert medical attention was always available, the cost in health and lives was high. Some workers contracted tropical diseases and had to be evacuated. Others suffered fatal accidents. Finishing these first two sections required more than a year.

Over Mountains and Desert

Meanwhile, an Argentinian company had set its construction crews to the task of extending the pipeline over the rugged Andes mountains. Happily, at a height of 2,145 meters (7,037 feet), the crossing point is at Porculla Pass, the lowest pass in the Peruvian Andes. Nevertheless, the obstacles were formidable. First, there was need to build a proper road. Then huge trailer trucks lugged sections of 91-centimeter (36-inch) pipe into position. Maneuvering these big vehicles up steep mountain roads, where the slightest miscalculation would send the truck plunging hundreds of feet into a chasm, required nerves of steel and excellent skills on the part of truck drivers. Moreover, instead of tropical jungle heat, workers now had to face the icy cold of mountain heights.

Once over the mountains and before reaching its maritime terminal at the port of Bayóvar, the pipeline crosses the Sechura Desert. This is one of the driest deserts in the world and offered its own special hazards. Vehicles equipped with big balloon tires pulled the pipe sections into place for welding. Special wooden forms had to be installed in the pipeline trench to prevent cave-ins due to dry desert sands. Shifting sands and relentless heat took their toll in both men and equipment.

In Future Issues

- **Are They Winning the Fight Against Breast Cancer?**
- **Families in Crisis, Societies in Decay**
- **How to Pray and Be Heard by God**

A specialized microwave communication system was installed to monitor the pipeline. This modern device, which cost $90,000,000 (U.S.), controls the flow of oil. It immediately spots any leakage and in an instant shuts off the oil to prevent waste or ecological damage.

Because of the pipeline, Bayóvar, a small sleepy fishing village, will become a modern city with an expected population of 100,000. Huge storage tanks have been built to accommodate the daily arrival of 116,000 barrels of oil. Port facilities were constructed for the huge tankers that haul the oil off to refineries. The government of Peru plans for Bayóvar to become the industrial center of northern Peru. Eventually it will have an oil refinery, a petrochemical complex, phosphate mines, a fertilizer plant and a metallurgical industry.

What Effect on Peru's Future?

The first oil from the jungle area arrived at Bayóvar on May 24, 1977. The 10 pumping stations had filled the pipeline with more than 3,000,000 barrels of oil. Peruvians were elated. The achievement caused much thought as to what effect this pipeline will have on Peru's future.

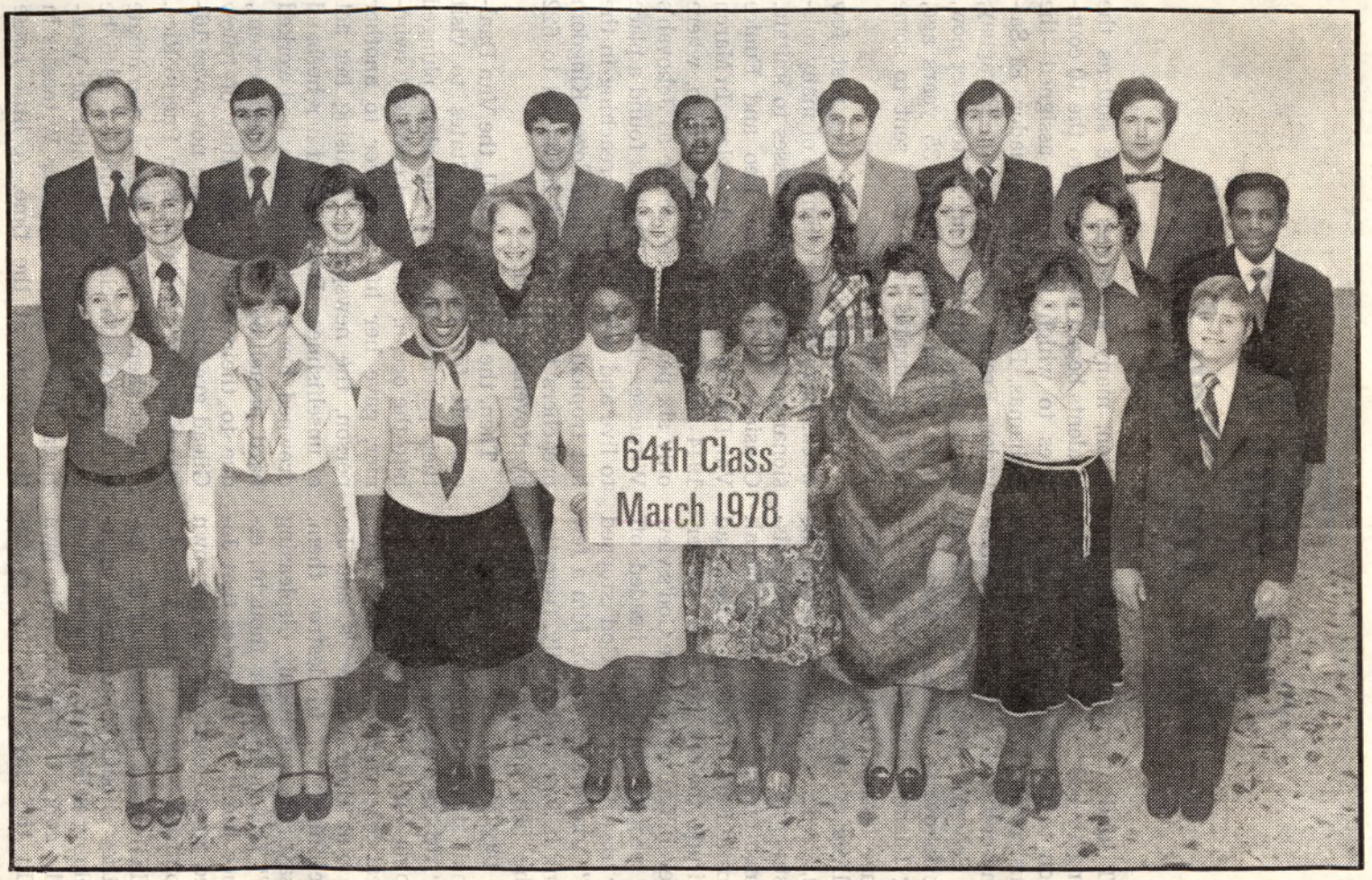
Surely there will be benefits. Already some can be seen. New roads have reached great mountain and high jungle areas, giving once isolated natives better access to the large population centers along Peru's western coast. There is no doubt that Peru, by becoming self-sufficient in oil, will greatly benefit economically.

However, unless great amounts of additional oil are found, the present jungle reserves are expected to last only until 1995. And before real benefits of this oil can be felt, large loans obtained for the pipeline project must be paid. Too, the final effects of the North Peruvian Pipeline and its oil depend largely on how this energy resource will be used. Only time will tell.

Remembering Her Creator

AT THE Papiamento assembly in Curaçao a very interesting experience was related in connection with a young witness of Jehovah speaking up for the truth at school. Her teacher told the class in great detail how man developed by means of evolution. When he had finished, the young Witness spoke up and said that she did not believe in evolution but did believe in creation as explained in the Bible. The teacher became angry and said that he was not teaching the Bible. After quite some discussion on the subject, he told her that the next week he would give her an hour to stand before the class and explain her point of view about evolution.

So from the Bible and the book *Did Man Get Here by Evolution or by Creation?*, the young girl prepared well and was able to defend the truth before the whole class and the teacher for an hour. She began talking in Dutch, but the teacher said that, since some of the students did not understand Dutch very well, she should talk in *Papiamento*, which she did. In the end the teacher marveled at her presentation and her courage and he asked the other students which one of them thought that he could stand before the class and defend his faith like that. Several of the students asked for more information on the subject, and the teacher asked for a copy of the *Evolution* book. It was an honor to Jehovah that this young student could defend the truth so well at school.—1 Pet. 3:15.



Sixty-fourth Graduating Class of the Watchtower Bible School of Gilead

In the list below, rows are numbered from front to back and names are listed from left to right in each row.

(1) Beatty, M.; Gillar, W.; Byrd, L.; Regalade, L.; Jefferson, M.; Landells, C.; Gabel, G.; Gabel, U. (2) Keller, R.; McCoy, S.; Triplett, B.; Segura, L.; Aponte, S.; Keller, C.; Jones, C.; Regalade, E. (3) Triplett, R.; Beatty, M.; Gillar, H.; Segura, G.; Reed, A.; Aponte, R.; Fawcus, B.; Henser, S.

Those Sent Forth —What Are They Like?

"WHAT kind of missionary are you going to be?" K. A. Adams posed this question to the 24 students that he had been instructing for the previous five months. The occasion was the graduation of Gilead School's 64th class, held on March 5 at Jehovah's Witnesses Assembly Hall, Long Island City, New York.

"There are lessons that you can learn from the lives of those who have gone before you," Adams continued. Then he drew the students' attention to two missionaries mentioned in the Bible, Jonah and the apostle Paul. Jonah, he noted, had a poor attitude toward his assigned territory, Nineveh, failing to share God's view toward its people. So Jonah headed off in another direction. "But God stopped him short," Adams said, "gave him a few days to think it over, and finally, from the belly of the fish, Jonah said: 'What I vowed, I'll pay.'"

"But Jonah still had problems," Adams observed. "Although he went to Nineveh and was doing the work, evidently he did not have real concern for the people. Thus, when they quit their bad ways, and Jehovah determined not to destroy them, the Bible says: 'It was highly displeasing to Jonah.'" This is food for thought, especially since the Bible indicates that Jonah showed great concern for his own personal comfort.—Jonah chaps. 1 to 4.

The graduates got the point of the lesson—that they should be genuinely interested in helping other people, rather than being overly concerned about their own comforts. In the days following graduation, many good-byes were said as the students began heading off to the 10 countries to which they were assigned—the Bahamas, Brazil, Chile, Ecuador, El Salvador, French Guiana, Japan, Paraguay, Senegal and Sierra Leone. Altogether now, since Gilead School began 35 years ago, 5,633 graduates have been sent to some 160 different countries.

Those departing during the past few weeks have the fine example of many missionaries from previous classes to imitate. Consider, for instance, Leo and Eunice Van Daalen of Gilead's first class. In March 1944 they arrived in Puerto Rico, where only six persons were active as Jehovah's Witnesses. The Van Daalens found a place to live and went to work preaching in the hot tropical sun. The half-dozen Kingdom preachers there in 1944 increased to 622 by November 1951.

Then, the following April, the Van Daalens left for the United States to visit their parents. However, the plane plunged into the ocean. Eunice, an excellent swimmer, gave her life preserver to another person, the newspapers praising her act of unselfishness. But she and her husband drowned. For eight years they had worked hard preaching, and, to a large extent, due to their activity and that of fellow Gilead graduates, there are now over 16,700 Kingdom proclaimers in Puerto Rico.

Then there is Donald Baxter, a graduate of Gilead's fifth class. On June 2, 1946, he landed in Caracas, the capital of Venezuela. There were only four Witnesses in the country at the time. A little house

with no running water was found on the edge of the city, on an unpaved street. Here the first missionary home in Venezuela was started. Baxter is still in Venezuela, having shared in the growth to over 13,800 Kingdom publishers today.

In country after country, Gilead graduates have opened up the Kingdom-preaching activity—in Dominican Republic, El Salvador, Nicaragua, Peru and many other lands. Regarding the start of the work in Ecuador, the *1948 Yearbook of Jehovah's Witnesses* reports: "It takes real determination on the part of missionaries to go into a land where they are total strangers and where no one is in sympathy with them or believes the truth as they do, and then march ahead fearlessly and courageously . . . This the graduates of Gilead have done."

During the graduation exercises of the 64th class, eight members of the headquarters staff of Jehovah's Witnesses urged all 1,944 persons present to demonstrate similar determination and faithfulness. L. Weaver pointed to the privilege the graduates have enjoyed of attending Gilead, but noted that under stressful conditions they could lose appreciation for their privilege. "Consider Demas," he said. "He enjoyed the privilege of being a fellow worker with the apostle Paul. But later on Paul states: 'Demas has forsaken me because he loved the present system of things.' "—2 Tim. 4:10.

L. Greenlees gave fine counsel on the need for wisdom in dealing with people, both with fellow missionaries with whom the graduates will soon be living, and with the local people who may have very different customs and ways of doing things. He encouraged missionaries not to consider their own ways to be superior. To illustrate the importance of really getting out among the people and learning their customs, Greenlees read this experience of a Peace Corps member, published in *The Wall Street Journal:*

"At the time, I had been living in Kenya nearly two years, and was teaching in a small town in the central part of the country. A student named Samuel invited me to his home, where I met his family and ate the fine meal his mother had prepared. Naturally, I praised the cooking.

"On the way home, Samuel asked me if he could tell me something. 'Madam,' he said, 'not to hurt your feelings, but it's very impolite to say anything about food unless there's something wrong with it.'

"With that, I felt my spirits drop. Two years and I was still so ignorant of the ways of these people I had come to live among and 'help' that I still didn't even know a simple thing like how to behave at dinner."

Yes, genuine interest and care for people—that is what missionaries need. Judging by their results in helping people in the five countries from which they had come, there is good reason to believe that the present graduates will make fine missionaries. Indeed, some already have spent more than 10 years in the full-time preaching work. So they are not inexperienced youths. They average over 29 years of age.

In his final talk to the class, instructor U. V. Glass quoted the Bible, saying: "Better is the end afterward of a matter than its beginning." (Eccl. 7:8) Then, at the conclusion of his heartwarming talk, in which he took note of their fine quality of loyalty, he said: "This is our wish for you. May your missionary service turn out in the end even better than in the beginning." Yes, may each and every one of the graduates of the 64th class continue to show loyalty and other Christian qualities in their missionary assignments.

For countless youths around the world, the ultimate symbol of success is an idolized rock-music star. For this reason, rock musicians and rock groups have played a considerable role in shaping the attitudes of their fans toward life. In a series of interviews with an *Awake!* correspondent, a former rock star, whose records have sold in the millions, discussed what real success is to him. The following summary of high points from those interviews may prove to be helpful to anyone seeking to attain success in life. Young people may also be helped to reevaluate their own attitudes.

a Recording Artist finds something far better

Question: What sort of training did your parents give you?

Answer: Not really a whole lot. When I was six years old my mother and father —well-to-do people—were divorced. Since I lived with my mother, my dad didn't have much to say about my training. She was fairly strict, but from the time I was 11 they sent me away from the Virgin Islands, where we lived, to a boarding school in New England. Being on my own all the time, I didn't get much training from my family.

Question: You mean moral training?

Answer: Right. I mean that when I did something wrong in later life I knew it was wrong, but I had no reason to do things right. Other people were doing wrong things and seemed to be *getting* ahead. Why shouldn't I do the same? Nobody had taken the time to teach me anything different.

Question: Did your parents have any plans about your future—that is, how they wanted you to succeed in life?

Answer: My parents really wanted me to go either to Annapolis [the United States Naval Academy] or to West Point

[the United States Military Academy]. So after I was expelled from one of the prep schools in New England, they sent me to a preparatory school for Annapolis, in New Jersey. My dad and his brother got me a chance to go there through the governor of the Virgin Islands. After a couple of years at that prep school, I decided I didn't want the navy as a career. So my uncle planned for me to go to Syracuse University, get my MBA (Master of Business Administration degree) and get involved in Wall Street. But I wanted something else. You see, from the age of nine I was interested in music. At 14 I first played professionally in Puerto Rico. So it was only natural that after graduating from high school I went to live in Greenwich Village, in New York city. At that time, in the early 60's, it seemed that everybody there was either an artist, a musician, a poet or a chess player—living the real "Bohemian" life.

Question: How much happiness did you find there?

Answer: Not a whole lot. There were five or six of us sharing an apartment. The group was making two dollars a night—and we were the stars of the show in the coffeehouse where we were playing! People like Richie Haven, Bill Cosby, Richard Pryor and Peter, Paul and Mary used to play there in those days. At times, Bob Dylan would come in and do a guest set.

Question: What kind of moral climate was there?

Answer: The activity was immoral—I'll just leave it at that.

Question: You went from Tommy Ray and his Carib Steel Band to the T-Bones, didn't you?

Answer: That's right. The T-Bones were a group recording out of California that took the Alka Seltzer commercial "No Matter What Shape Your Stomach's In" and made a million seller out of it. They saw me in New York and asked me to join the group. That's how I ended up in California.

We toured Japan around 1965. The T-Bones had had a number of hits over there that were very big. That trip *really*

started me thinking. I began to see how crazy the world was—how, during war, one people had learned to hate another people; yet we're all just people—one human race. Then there's the way people look at you when you're an entertainer—as if you're not really human. Anyway, it all got me started thinking seriously.

Question: Did that lead to any changes in your life?

Answer: Not any profound ones, but there were some changes professionally for me. The T-Bones broke up and I got together a group called Shango. We wrote a song, as a joke, about the earthquake scares in California. It was called "Day after Day," and the thing went to the number one best-seller spot on the west coast [of the United States]. This convinced me that now I was really going to make a success on my own. It was then that I met my wife in Las Vegas. After getting married, we bought a small farm in Palmdale, California, where I could write and prepare my album.

On the farm, we were growing all our own food and becoming introverts—not associating with anybody. Then one day two of the members of the old T-Bones came by. They were playing a club and asked if I'd play with them. So, not forgetting my plans for being a solo artist, we formed a group. The first song we recorded, in 1971, sold almost two million records within six months.

Question: Wasn't your daughter Daisy born at the same time that your first record with this new group appeared?

Answer: Yes, Daisy was born in October 1971. I left on a five-week tour when she was only 10 days old. Being on the road and successful—I mean by the world's standards—making up to $4,000 a night, there were many offers to engage in immoral activities. Because of the pressures, the traveling and the time I had to devote to staying on top—which is what I had always wanted—a real strain was put on the relationship between my wife and me. The situation became such that we separated. She went home to Texas and I stayed in Los Angeles.

"I had seen hypocrisy in Christendom's churches, so I went into Eastern religions."

Another reason we separated was that I hadn't really found the happiness and peace that I expected from success and I had started to search for God. I had seen hypocrisy in Christendom's churches, so I went into Eastern religions. I thought there was something more peaceful about a guru sitting on the side of a mountain meditating than there was about someone in a pulpit who drives a Cadillac. At least, that was the image I had of clergymen.

Meanwhile, I had finally got the financial backing to do the solo album that had been my ultimate goal all those years. I wrote it, sang it and recorded it. I thought it was a good album. But suddenly my whole life was to change completely and unexpectedly.

It was the drummer playing for us, who had drummed for Janis Joplin until she died, who led me to make this change. I'd always respected him. Not only was he a fantastic drummer; he was always conscientious. He would **never** lie, and that

was unusual for most of the people I knew. His wife was studying with Jehovah's Witnesses. So, one day he asked me if I would come to one of the meetings. I'd never heard the name Jehovah before. Since the drummer was from Louisiana, I thought he was in one of those "bayou" religions from down there, or something like *that.*

I said: "I'll go." By then, with all my involvement in Eastern religions, I figured I'd go to save him by exposing this "crazy" religion.

I went to one of the Tuesday night group Bible studies in someone's home in Burbank, California. They were using a Bible study aid called "Paradise Restored to Mankind—by Theocracy!" It was about the rebuilding of God's temple in Jerusalem and the prophecies of Haggai and Zechariah. I was thinking: "Who cares about rebuilding a building way back in 520 B.C.E.?" But I noticed the people there. Some were giving wrong answers, but nobody was saying, "Oh, you dummy! Why don't you shut up?" There were all types of people, black, white, Spanish, young and old. Everybody had a loving way. There wasn't this ego problem—especially coming from a show business group you notice that. Above all, these people looked happy to me. I wasn't.

The book study conductor was a young man. I thought: "I've been all over the world. How can he know more about life than I do?" Still, he was calm and confident in his answers when talking about God. After the study, they asked the drummer and me to stay for coffee. We *stayed* till four in the morning. I asked every question that I could think of and the study conductor answered each one right from the Bible. By then I was convinced this was the truth.

I asked, "What do I have to do to join?" He said: "You don't **join** Jehovah's Witnesses. You become one." This was Tuesday night, February 6, 1973. I had my first home Bible study on Wednesday. I cut my hair and changed my grooming on Thursday. That was to conform more to the modest appearance of someone who wants to serve God. Because I'd already given up drugs and all forms of uncleanness as part of my effort to learn about God, I was permitted to accompany some Witnesses in their teaching work on Friday. I've never stopped since then.

After all the years of looking for the truth, I recognized it immediately when I found it, and I wasn't going to let it go.

Question: What about the solo album that you had just made?

Answer: The solo album was what I'd thought I always wanted. But I knew I'd have to go on the road to promote it. It was either do that or live the truth of God's Word. It was my own personal decision because, if I got back on the road, the drugs and the immorality would be facing me every day. I realized that I would eventually succumb to it. I therefore made my decision right there: to serve Jehovah.

Question: So you quit music?

Answer: Professionally—yes. It was hard. To begin with, I had to get myself into Jehovah's organization. That meant I had to get out from under all kinds of contracts and other obligations that would have put me all the more deeply into the way of life that I wanted to place behind me. The big reason I quit music—and I love music and still play in assembly orchestras of Jehovah's Witnesses—was that I wanted to be happy! Of all the worldly persons I've known in show business, I've never seen a really happy one yet. The Witnesses have what these people are searching for: that "ultra peace," the satisfaction that the world doesn't have. The world doesn't have it and so the people can't get it. People don't realize the truth of what Jesus said: "Come to me, *all* you

who are toiling and loaded down, and I will refresh you."—Matt. 11:28.

Question: When people asked you, "Why don't you keep on in music and use your music to promote your religion?" how did you answer them?

Answer: The point is: there's nothing wrong with playing music. But the way I was in it, with the writing and the performing and always being on the road, I knew enough about the truth of the Bible to know that I couldn't live that type of life and serve my Creator at the same time. True, I've met many Witnesses who are fine studio musicians and make a nice living at it. They go to the studio, make their music and go home. They have the right perspective of it.

Question: Did your new knowledge do anything to improve your deteriorated marriage situation?

Answer: My wife and I had always loved each other. It was only my quest for what I thought to be success that had made everything else secondary, including my marriage. Now, as soon as I began studying the Bible I telephoned her to tell her that I was changing my life. I prayed to Jehovah that she and I and our daughter could get back together again. Sure enough, that prayer was answered. In about a month they were with me in California. Within three weeks after that, my wife began attending meetings at the Kingdom Hall with me and my daughter. Although she came at first mainly because she didn't want to be left home alone, one of the members of the congregation began conducting a home Bible study with her and she soon came to share the same convictions I had. So our family was back together again. We were happier than we had ever been before. I had to admit that this was what I'd been looking for all along.

Question: How would you compare the type of life you have now with the one you had before?

Answer: No comparison! *This is* life now. I try to help young people—and older ones too—to realize this. But I'm not so sure everyone wants to. For instance, kids used to come up to me and ask for my autograph—real nice, sincere kids. Even at that time I'd say: "Why do you want my autograph? I'm a person like you. I just happen to be in this business. Don't worry about getting autographs. It's not right." People didn't want to hear that. It's hard to tell them, when you've done something they want to do, that they shouldn't do it. They don't want to hear it. At least, that's my experience.

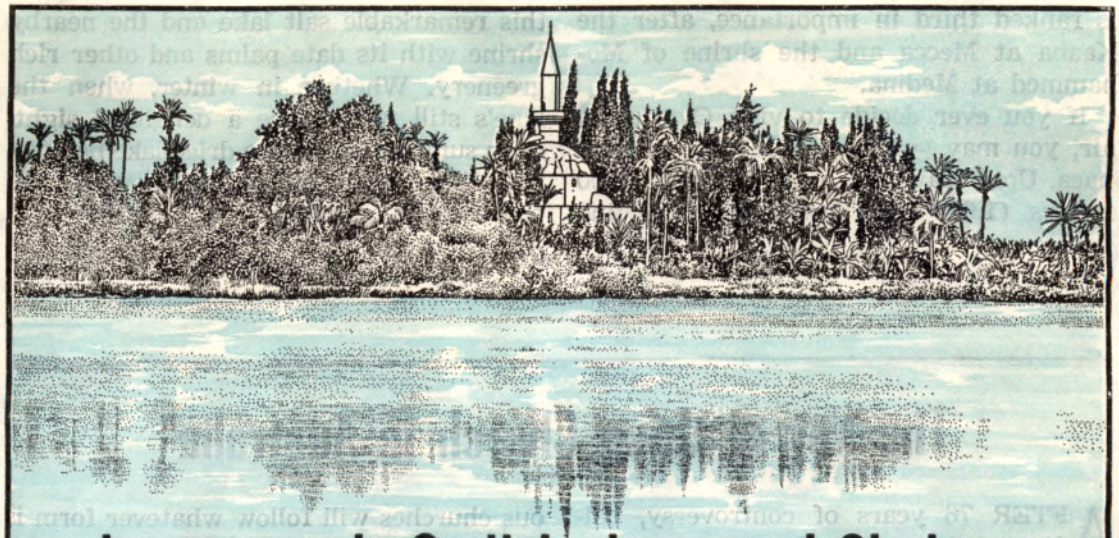
Question: Aren't there still a lot of people attracted by the fame and money that the world tends to equate with success?

Answer: Perhaps people who are should reason a little and not have to learn by experience the way I did. Think: Everyone wants to be loved for what he is as a person. You find it obvious in the entertainment world that you're liked only because you've got the money, the connections and the success. For me, I could not love God and my neighbor and live that kind of life because there's no true love and human kindness in it.

Question: What is success?

Answer: For me, success is finding myself serving Jehovah God. My wife and I have had the real pleasure of helping six other persons to learn the truths of the Bible. They've been baptized to symbolize their dedication to Jehovah God and are now serving him right along *with us*. That's true success.

It's interesting how Jesus put it about the way leading to success. He said: "Narrow is the gate and cramped the road leading off into life." But that is the road to success, the only road to success. My wife and I pray that Jehovah will keep us and all our Christian brothers and sisters on that road!—Matt. 7:14.



Larnaca's Salt Lake and Shrine

By "Awake!" correspondent in Cyprus

IN Larnaca, Cyprus, a coastal town with a population of about 38,000 to 40,000, there is quite an interesting lake that serves as the main provider of salt for Cyprus. The lake covers about half a square mile (1.3 sq. kilometers) and presents a beautiful sight. At evening, one can see in its quiet waters the reflection of stark hills and rich foliage.

The salt lake forms following the rains of winter months. During the summer, especially July and August, the lake dries out, leaving behind its storehouse of salt. Local government workers collect the salt in small heaps, which they load on donkeys for transportation to special warehouses. They first wrap old pieces of cloth around the legs and the feet of the animals so that the salt will not cause them injury. The work of transporting the salt lasts about one and a half months. Eventually the salt finds its way into carton packets that are sold in markets.

To the west of the salt lake, in a setting of date palms, there is a famous Moslem shrine known as the Tekke of Umm Haram. The Tekke houses a tomb that is reported to contain the remains of an aunt of Mohammed. However, scholars who have traced the woman's ancestry claim that she was not a relative but a close friend of Mohammed and an aunt of his secretary. It is said that this woman helped the prophet of Islam on his journey from Mecca to Medina.

Legend has it that Umm Haram accompanied her husband on an Arab invasion of Cyprus in 647 C.E. Supposedly, she fell from her mule and was killed and buried on the spot. Later, a monument consisting of two upright stones some 15 feet (5 meters) in height, with a third stone laid across the top, was erected in her honor. Visitors to the shrine are told that the top stone miraculously was brought from Mecca and placed there by night.

This shrine became important during the Turkish occupation of Cyprus. A mosque was built on the site that is now a place of pilgrimage for many devout Moslems. Of Moslem shrines, the *mosque*

is ranked third in importance, after the Kaaba at Mecca and the shrine of Mohammed at Medina.

If you ever decide to visit Cyprus by air, you may land at the airport of Larnaca. Upon leaving the airport, about 500 meters (1,640 feet) away you will find this remarkable salt lake and the nearby shrine with its date palms and other rich greenery. Whether in winter, when the lake's still waters are a delightful sight, or in summer, when the dried lake bed displays huge heaps of salt, this location will prove to be relaxing.

The New 'Uniting Church in Australia'

AFTER 76 years of controversy, ballots, arguments and even court cases, the 'Uniting Church in Australia' was finally born during the summer (Australian winter) of 1977. It is composed of Methodist, Presbyterian and Congregational churches, includes 1,500 parish clergy, over 240,000 members and about one and a half million "census adherents," making it the third largest denomination in Australia.

The name 'Uniting Church in Australia' was chosen to stress the continuing nature of a movement toward uniting churches. Its members hope that yet other churches will fall in line with this effort.

In its ecclesiastical structure and the titles used, the new church will retain features of the three constituent churches. Women ministers are accepted, and women occupy prominent positions in both clergy and laity. There is no fixed ruling at present on the use of alcohol, although the issue is still under debate. By tradition, Methodist ministers have strictly abstained from it in the past. It appears that the religious services carried out in the various churches will follow whatever form is most familiar to the local congregation.

However, not all members and congregations of the three combining churches have joined the Uniting Church. Thirty-seven of the 307 Congregational churches continue to function separately as the 'Fellowship of Congregational Churches'; and 521 of the 1,437 Presbyterian congregations have rejected the union. Reasons for not joining the Uniting Church involve matters of doctrine and church organizational procedure. Further problems have arisen regarding church properties. Splitting of the Presbyterian Church has caused a tense wrangle over dividing up of an estimated thousands of millions of dollars' worth of church holdings. These include churches, houses occupied by church personnel, schools, hospitals, city office buildings and prime real estate.

Formation of the Uniting Church gave rise to much publicity, with emphasis on expected community and social work. Will there be an intensified search for God on the part of individual members? That remains to be seen.—Acts 17:11.

KNITTING AS A LIFETIME HOBBY

I WAS seven years old when I knitted my first item of clothing—a pair of baby's socks. Eventually, this centuries-old craft became a practical hobby for me, as I made many of my winter woollies.

Upon moving from England to tropical Brazil, my needles and patterns were left idle. Why knit in the tropics? But a few years later the Brazilian producers of cotton, wool and man-made fibers launched a campaign to stimulate interest in knitting. Free courses are still offered, and the very first lesson suffices to convince girls and women of the pleasure and savings that can come from this hobby.

An Ancient Craft

Knitting is truly a practical craft. Whereas woven cloth has to be cut, shaped and styled, all of this can be done with the yarn when knitting it. Actually, the need to convert yarn into a fabric and shaped garments was responsible for the very invention of knitting.

How long ago was that? A pair of knitted woolen socks found in an Egyptian tomb may date back to the fourth century B.C.E. About 3,000 years ago, in Arabia, different-colored yarns were used to form designs. In fact, nomadic tribesmen of the Arabian desert are thought to have been the first knitters. While caring for their sheep, they would knit with yarn spun by their wives. In time, their knowledge spread throughout Europe, including the British Isles.

Men, not women, established the craft as a skilled profession. Their training involved three years of study and three of travel. Then followed a further 13 weeks of testing in creative work. After passing the test, a man was accepted as a member of the knitters' guild.

About 400 years ago, women began to knit as a pastime. First, they learned the craft from their husbands. But, since then, it has been passed down traditionally from mother to daughter. In many countries women's magazines print new knitting patterns. Although featuring the latest fashions, these patterns are actually based on those developed by the menfolk in the dim past.

Traditional Designs Still Popular

The forefathers of the Aran Islands'* fishermen gave us a seemingly inexhaustible treasure in stitch designs. Each design has a meaning. The picturesque Irish landscape is depicted by a variety of such designs. Small fields enclosed by stone walls are illustrated by the trellis stitch. Zigzag designs represent cliff paths twisting along the coastline. The handiwork of the industrious bee provided the inspiration for the honeycomb stitch.

* The Aran Islands are situated off Ireland's west coast.

Ladder of Life

Lobster Claw

Tree of Life

Family life also produced a wealth of ideas. The plaited cable served as a reminder of the interweaving of family life, whereas the desire for the family to be well fed and healthy was portrayed by the spoon. Various cable patterns depict the fishermen's ropes. And unmistakable religious influence can be seen in the tree of life design and also in the ladder of life, representing man's climb to eternal happiness.

Over the centuries, the inhabitants of the Shetland Islands have developed a multicolored knitting technique called "Fair Isle." A flat weave, known as the stocking stitch, is used for all garments, and colorful motifs are knitted in as part of the weave. Patterning in delicate colors is mostly done on a light background. No more than two colors are used in a row, but a change of ground shade and pattern shade in alternating rows gives a multicolored effect.

The beauty of this work is enhanced by applying dyes from local plants. The resultant subtle shades of blues and greens cannot be matched by chemical dyes. On other islands, the multicolored effect is achieved by knitting various shades of natural wool. Shetland wool, for example, is noted for its fineness and durability. A garment made from this wool is said to last a lifetime, and the colors never fade. The wool has been spun so finely that a lace shawl, six feet (1.8 meters) square and containing one and a half miles (2.4 kilometers) of yarn, weighs only two and a half ounces (70 grams). Why, it can be pulled through a wedding ring!

Practical Garments Dominate the Scene

Have you noticed that most knitted garments are for practical use? Having plenty of time at home on long winter nights, fishermen around the English coast used their knitting talent to make a garment that would stand up to their rough outdoor life. By knitting with very fine needles, they created a virtually windproof fabric. When completed, it is a seamless garment, the original navy-blue jersey or guernsey that is named after islands in the English Channel. It has never been improved on for warmth, protection and freedom of movement.

Typical on the South American scene is the hand-knitted *poncho*. It was the alpaca that provided the raw material for this original work and the inspiration for the knitted motif. Alpaca wool is very light and as soft as silk.

The hand-knitted item that defies even the spinner is the *lovikka,* the Scandinavian mitten. With thick needles, it is knitted in stocking stitch from unspun wool. The resultant weave provides such excellent insulation that a person's hands perspire even at temperatures of 30 degrees below zero Fahrenheit (–34 degrees Celsius). Simple colorful embroidery and a tassel brighten up the natural color.

A Twentieth-Century Hobby

Knitting has never been so easy as it is today. Patterns are available with instructions for practically every known garment. Modern styles call for stitch designs that simply beg you to have a try. With only a few lessons, the beginner can learn elementary essentials, and the use of thick, chunky wool makes for quick progress.

Economic conditions have put more emphasis on knitting as a craft, not just a hobby. For example, the price of a topcoat in England doubled in just one year. So, knitters are directing their talents to the making of short jackets, bulky sweaters and cozy *ponchos.* In southern Brazil, where the temperature can drop below the freezing point, short jackets, knitted with thick yarn and sporting Aran designs, are seen more often than winter coats.

Brazil's involvement with knitting stems from its having available the needed raw materials. For centuries cotton has been grown in Brazil and exported to Europe. Careful experimentation has yielded a strain of cotton that is superior to any previously developed, particularly in regard to fiber length and strength. Known as *serido,* the plant can produce for seven to 10 years before being replanted, while other kinds have to be replanted annually. This has given a boost to the local cotton industry and, hence, also to knitting.

Tips for Beginners

But how can you go about learning how to knit? Says *Everyman's Encyclopedia:* "The knitter's craft itself is very simple, requiring only a set of [knitting] needles, a ball of wool, cotton, silk or linen. A single loop is made on the end of the fibre that is being used and from this loop the stitches are cast on to the needles, the basic action of the craft consisting of transferring the loops from one needle to another; 'weaving' the new set of loops transferred on to the second needle from the first set of loops by passing the point of the second needle through the loop, wrapping the fibre over the point of the needle, and then passing the loop over the fibre wrapped round the needle. By working across the back of the loops a purl stitch is produced, [knitting] and purling being the foundation stitches out of which the most simple and elaborate patterns are created."

Brazilian designers have substituted Fair Isle knitting for Swiss darning—a method whereby the garment is knitted in stocking stitch and the pattern is applied afterward. Most lace designs are best produced when one has more experience. Yet, simple basic design, such as net stitch, can easily be made with just a little practice. Nevertheless, experienced knitters still prefer to follow a pattern—to pick up professional secrets.

Most yarns are sold by weight and the yardage depends on its thickness and quality. Man-made fibers are much lighter than wool of the same thickness. Once, for a pattern that called for natural wool, I bought, *in weight,* the same amount of synthetic wool. When I completed the garment, I still had almost half the wool left. Cotton of the same thickness as natural wool is even heavier. This I discovered when knitting a suit intended for wool. I used cotton of the same thickness instead, which did not alter the tension required, but I had to buy almost twice as much yarn in weight. It turned out to be an expensive suit indeed.

Knitwear is preferred to crochet work for close-fitting garments. Due to its elasticity, a hand-knitted garment can stretch 30 percent before losing its original shape. When undoing a garment to be reknitted, much of the original elasticity is lost, so that an adult's sweater will produce only enough for a child's. For this reason, too, never wind yarn tightly on a ball.

Many hand knitters have dropped the hobby in favor of machine knitting. Yet, knitting by machine can never give the same calming physical satisfaction, and it robs a person of the pleasure derived from making something with his own hands. This is why a mother of five children sold her machine. Now "she works at whatever is the delight of her hands."—Prov. 31:13.

Yes, knitting is a rewarding and practical hobby. The pleasure it gives is no doubt one of the reasons why it has lasted so long and spread so far. Another reason is its providing a variety of clothing. Knitting has a unique past, it is a practical hobby for today and it has a promising future. So why not make it *your* hobby too?—*Contributed.*

The Bible's View

Can You Change Your Personality?

"SORRY! But that's the way I am and I can't change. You'll just have to make the best of it!" Expressions such as these have been made time and again by one member of a family to another as an excuse or in justification of displaying certain personality traits that irk, or may even severely try, others. In particular is this likely to be the mental attitude of those addicted to alcohol or who follow a homosexual way of life.

But is it really so that personalities cannot be changed? The Bible indicates that they can be. For example, the apostle Paul wrote: "For all things I have the strength by virtue of him who imparts power to me." (Phil. 4:13) For one thing, he was able, by virtue of this power, to put up with all manner of circumstances; he knew how to get along with much or with little. And, as we examine his life, we find him serving faithfully as an "apostle to the nations," although often experiencing beatings, once being stoned, three times being shipwrecked, spending a day and a night in the deep, as well as having undergone or faced all kinds of dangers.—2 Cor. 11:22-27; Rom. 11:13.

More than that, Paul was able to make a radical change in his personality. Before he became a Christian, he had been a "blasphemer and a persecutor and an insolent man." Because of this, he speaks of himself as having been the 'foremost of sinners.' (1 Tim. 1:12-16) However, upon becoming a Christian he became so exemplary that he could write: "Become imitators of me, even as I am of Christ."—1 Cor. 11:1.

No, this was not an easy thing to do. Paul had internal conflicts, so that at times he did the things he wished not to do and did not do the things he desired to do. But his weaknesses never got the upper hand. That is why he could exclaim in this connection: "Thanks to God through Jesus Christ our Lord!" (Rom. 7:13-25) Yes, great as were his responsibilities and privileges in being the apostle to the nations, he had a struggle. That is why he also wrote: "I pummel my body and lead it as a slave, that, after I have preached to others, I myself should not become disapproved somehow." (1 Cor. 9:27) There is no question that, by 'virtue of the strength God provided,' Paul was able to change his personality.

And not only could the apostle. He tells of the changes in personality made by some at Corinth who had been indulging in fornication, idolatry, adultery, homosexuality, thievery, and so forth. What enabled them to change? Their newly found religion. "But you have been washed clean," says Paul, "but you have been sanctified, but you have been declared righteous in the name of our Lord Jesus Christ and with the spirit of our God." (1 Cor. 6:9-11) Similarly, the apostle Peter writes of some who had left off such bad habits. These Christians, too, had made changes in their personalities.—1 Pet. 4:3, 4.

Then again, it is common knowledge that there is very little unselfish, self-sacrificing love shown by people in general, little even by those belonging to the same religion or "church." But Jesus said that this quality, genuine love, would mark

his followers. (John 13:34, 35) For that to be true, his followers have to make changes in their personalities, from selfishness to unselfishness.

But today there are some who do not agree. For example, there is a certain clinical associate professor of psychiatry at the University of British Columbia. To a leading "fundamentalist" magazine, he wrote a letter that was published under the heading "No Help On Homosexuality." In it he objected to an article that had previously appeared in that magazine to the effect that homosexuality was not compatible with Christianity. According to him, it is too much to expect conversion to Christianity to effect a change in sexual orientation from homosexuality to heterosexuality. He referred to some who insisted that, at best, only 25 percent can change, and he quoted the evangelical British psychiatrist whose experience with 50 homosexuals caused him to conclude: "If anyone believes that the experience of conversion will take away sexual desires and lead to a normal attraction toward the opposite sex, then he is mistaken. . . . I have met no single case of a man being set free from them by spiritual measures."

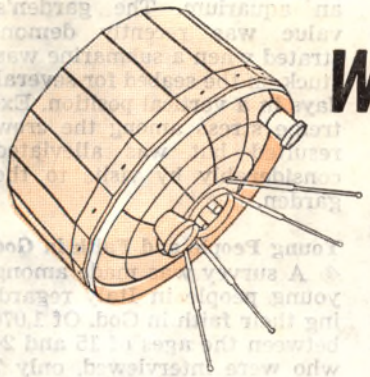
Why the contradiction? Who is mistaken? It could not be the apostles Paul and Peter, for they were not only intelligent and honest men but they wrote under divine inspiration. The only conclusion we can come to is that those who insist that conversion did not result in a change of personality did not use the right kind of "spiritual measures." In other words, the professed believers were not converted to true, genuine, apostolic Christianity.

Why can true Christianity cause a change in personality regardless of the nature of the flaws? For one thing, because true Christianity inculcates strong faith in the Creator. He made us and he has the right to tell us what we may and may not do. Moreover, being the all-wise, just and loving Sovereign of our lives, he knows what is best for us. Faith in him will enable us to take his view on this matter, and his Word makes it very plain that he considers homosexuality a gross sin.—See Genesis 19:1-29; Leviticus 18:22; 20:13; 1 Timothy 1:8-11; Jude 7.

So, from the first step onward, there must be an accepting of God's view that this practice is bad and an obeying of God's command to "hate what is bad." (Ps. 97:10) Even as an ex-alcoholic must try to "hate" the inebriating effect of liquor if he would remain free from his addiction, so must the one who once was a homosexual "hate" his former sexual orientation. To be able to do this, he needs to heed the advice: "Quit being fashioned after this system of things, but be transformed by making your mind over, that you may prove to yourselves the good and acceptable and perfect will of God." (Rom. 12:2) This requires feeding the mind on God's Word and thinking the right thoughts. (Matt. 4:4; Phil. 4:8) Yes, with the help of God's Word and holy spirit, persons can strip off their old personality and "put on the new personality which [is] created according to God's will." —Eph. 4:22-24; Col. 3:8-10.

God has also provided the avenue of prayer. Jesus told us that, if we pray in faith, our prayers will be answered. (Matt. 21:22; Luke 11:13; Zech. 4:6) Further, God's Word also makes provision for the elders in a Christian congregation to help. —Gal. 6:1; Jas. 5:14-20.

The facts show that these "spiritual measures" have helped men and women to get free from homosexuality today, even as they did in apostolic times. True Christianity provides both the motivation and the aids that enable persons to make changes in their personalities, all to God's glory and to the blessing of themselves and those with whom they associate.



Watching the World

Book for the Whole World

◈ The American Bible Society recently reported that all or part of the Bible (at least one book of it) has been published in 1,631 languages. Those languages represent about 98 percent of the world's population. During 1977 the Bible, or parts of it, appeared, for the first time, in 28 additional languages. Seven of this number are spoken in Papua New Guinea and three in Indonesia.

Phonetic Typewriter Coming?

◈ Experts at Japan's Applied Electrical Research Institute of the University of Hokkaido have developed a typewriter that immediately converts spoken Japanese into letters. They say, however, that another two years of research will be needed before the phonetic typewriter can be put to commercial use.

Jail Costs More than Hotels

◈ The U.S. National Council on Crime and Delinquency reported recently that it costs New York city $173 million (U.S.) a year to house its 6,600 jail inmates. That amounts to $71.87 a day for one person. Other costs brought the figure to $76.19 per prisoner per day. By comparison, a single room in the Plaza Hotel costs $47 a day. And an expensive single room in New York's Waldorf comes to $65 a day—still less than the cost of a jail cell.

Priests' Quitting Pains Pope

◈ The Vatican recently reported that over 4,000 priests out of a total number of 405,000, left the priesthood in 1975. No figures were given for 1976 or 1977, but Vatican observers believe that fresh worldwide data recently caused the pope to say that he has suffered "immense pain" over this matter. To an audience of priests in the Sistine Chapel, the pope added: "The destiny of the weak ones who have found the force to desert their pledge confounds us and makes us invoke the mercy of God."

Among nuns the problem is even more serious. The Vatican has disclosed that, between 1973 and 1975, out of almost 1,000,000 nuns, about 10,000 a year have left convents.

Freezing the Bugs Out

◈ The Yale University Library has begun a program to eradicate any beetles and other bugs lurking in their rare books. Certain insects eat well on a diet of cellulose, glue and leather. However, relatively few of the old books were found to be infested with insects. So the wholesale freezing of 37,000 books is mainly a precautionary measure. Books are placed in polyethylene bags and then put into a blast freezer at -30 degrees Celsius (-22 degrees Fahrenheit). After three days, the books are returned to room temperature and to the shelves, insect free. Since this method has proved so successful and avoids the problems connected with fumigation, the library decided to apply the technique to all its books.

Soda-Pop Peril?

◈ In a letter to the *Journal of the American Medical Association*, Dr. Daniel M. Thompson, M.D., writes that his experience indicates that heavy drinking of soda pop is linked to hematuria (blood in the urine). He told of two patients with this problem. Both worked at a soft-drink plant, and, "when they were thirsty, they would take a bottle of carbonated beverage off the line and drink it. They rarely drank water." When they followed the doctor's advice to stop drinking soda pop, their ailment cleared up. Since then the doctor says that he has seen many cases of blood in the urine among "people who are heavy drinkers of soda pop." He has also seen "a considerable number" of cases of pus in the urine, which fact he believes was "associated with regular drinking of soda pop." He concludes: "Our heavy pop-drinking society of adults and children cannot eat because their stomachs hurt, cannot sleep because of the excessive caffeine, and cannot urinate because of the burning. A pop-drinking history should be included for every patient."

Archbishop Wants Army

◈ According to the Athens News Agency *Daily Bulletin*, Archbishop Chrysostomos of Cyprus is calling for a well-equipped army to be set up to deal with Turkish troops on the island. "A struggling people," he is quoted as saying,

"should exploit all the possibilities that present themselves. We are struggling against a strong foreign power which constitutes a permanent threat for Cyprus. We do not intend to surrender. We shall fight. And in order to fight effectively, we require a capable army."

Pilgrim Deaths at Mecca

◈ Dr. A. I. Atta, executive secretary of the Nigerian Pilgrims Board, disclosed recently that 383 Nigerian Moslems died during last year's hajj, or pilgrimage, to Mecca. He reported that a significant factor in these deaths is the large number of people gathered in one place to pray for long hours. The weaker ones, he explained, collapse and the chances of getting medical aid to collapsed ones is remote because of the number of people and the "sitting arrangement." But, said Dr. Atta, the matter of deaths at Mecca was not peculiar to Nigerians alone.

Smoking and Memory

◈ A team of researchers in California recently tested a number of smokers, giving some of them cigarettes containing nicotine, whereas others were given cigarettes without nicotine. The tests revealed that the nicotine in cigarette smoke impairs one's ability to learn and remember. Said Dr. John P. Houston, professor of psychology at the University of California in Los Angeles: "Short-term memory for verbal materials was significantly hindered by the smoking of cigarettes containing nicotine."

Where TV Sets Abound

◈ Which country has the most television sets per capita? According to the latest edition of the United Nations Educational, Scientific, and Cultural Organization Statistical Yearbook, it is Monaco. This land has 640 sets for every 1,000 persons. Next was the United States, with 571 sets. Then came Canada with 411, Sweden with 352, England with 320, Denmark with 308 and the German Democratic Republic with 307. The Federal Republic of Germany and Finland had 306 each.

"Tubing" Tragedies

◈ A Seattle bone surgeon, Dr. Theodore A. Wagner, has spoken out against the sport of "tubing"—sliding down snow-covered hills on inflated inner tubes. He says serious injuries have resulted from this sport. Adding to the tragedy is the fact that most of those disabled are quite young. The oldest patient he has seen as a result of a "tubing accident" is a 20-year-old woman who is "now in an electric wheelchair, paralyzed from the neck down and without bowel or bladder control." Such serious injuries can result, he said, because "a tube amplifies bumps. It squashes down, then recoils. A person can be pitched as much as 15 feet [4.5 meters] in the air." However, the doctor is not against sledding because sleds can be slowed and steered. But, he points out, "you can't do those things on an inner tube, and the price of one serious accident is dreadful."

Need for Nature

◈ A nuclear submarine may be one of the least likely places a person might expect to find a garden. But a number of Soviet nuclear submarines each have one now, and for a good reason. In order to remain undetected, their vessels do not surface even on the high seas. Thus crews suffer psychological stress on long voyages. To counteract this, Soviet experts have installed the garden in one of the missile storage areas, where a mural shows a running stream "that actually seems to be in a forest." However, real grass and flowers also decorate the scene. Small birds such as canaries and tits chatter and fly about freely. Here crew members can also see fish in an aquarium. The garden's value was recently demonstrated when a submarine was stuck on the seabed for several days in a vertical position. Extreme stress among the crew resulted but was alleviated considerably by visits to the garden.

Young People and Faith in God

◈ A survey was made among young people in Italy regarding their faith in God. Of 1,076 between the ages of 15 and 24 who were interviewed, only 7 percent declared that they did not believe in the existence of a Creator. Those having doubts were 17 percent and those not replying to the question 1 percent. The largest group, 75 percent, said that they believed in God's existence.

Danger Even for the Experienced!

◈ A two-year study of hang-gliding accidents in California has been completed. It analyzed 144 injuries and 37 deaths associated with the sport. The result? The more experienced the pilots, the more the accidents. Said Dr. John R. Tongue, orthopedist and sports medicine expert, to the American College of Surgeons: "The paradox of the sport is that the greater skills lead to greater dangers, as the flier tries to accomplish more and more with his increased technical capacities. If you hang-glide for about three years, your chances of having a serious injury are about one in five. Minute for minute, hang-gliding is about as dangerous a sport as *any I can* think of." The U.S. Consumer Product Safety Commission reported 1,500 injuries from hang-gliding in 1976 and 1977, and 71 deaths since 1973.

A Rare Elephant Birth

◈ Recently, a zoo in Knoxville, Tennessee, U.S.A., reported the birth of the first African elephant in captivity in the western hemisphere.

(There have been two elephant births in Europe.) Such births are extremely rare. One reason for this is that few male elephants have been kept in zoos because of their ill-temperedness. But because elephants in the wild are decreasing in number, more and more zoos are accepting male elephants. Born to a 16-year-old female, the baby elephant weighs 200 pounds (90 kilograms). His father is a 28-year-old veteran of circus experience, donated to the zoo 18 years ago.

Forced Attendance

◈ The pastor of St. Patrick's Church in Garryowen, Iowa, recently noted that a number of parishioners were leaving the church before the end of evening Mass. To prevent them from leaving early, the pastor installed an electronic door lock. Then, at a Saturday evening Mass, he tripped a switch at the altar, electronically locking the door. Those trying to leave that evening were obliged to return to their pews. Apparently not all were happy about being "locked in church," as one of them told a fire marshal about the matter. Iowa state fire officials ordered the immediate disconnection of the church's electronic door lock.

Swedish Birthrate Down

◈ Last year Sweden reported 96,000 births—an all-time low in birthrate since the country began keeping records back in 1749. The main reason for the low birth level is the increase in abortions. About one fourth of all pregnancies are now so terminated.

Cat Walk

◈ A cat named "Tiger" was lost this past summer in Wausau, Wisconsin, while his owners were on vacation. When they returned to Dubuque, Iowa, they did not expect to see their cat again. But eight months later, after having walked some 250 miles (400 kilometers), Tiger showed up in good health, even a little heavier. The owners, glad to have Tiger back, have been wondering how he crossed the wide Mississippi River. The cat is keeping the secret.

Runaways in Italy

◈ According to *L'Espresso*, in Italy the number of runaways under the age of 18 is increasing. In 1976, over 6,000 young persons ran away—an increase of 53.8 percent over last year. Unlike previous years, more girls than boys were runaways.