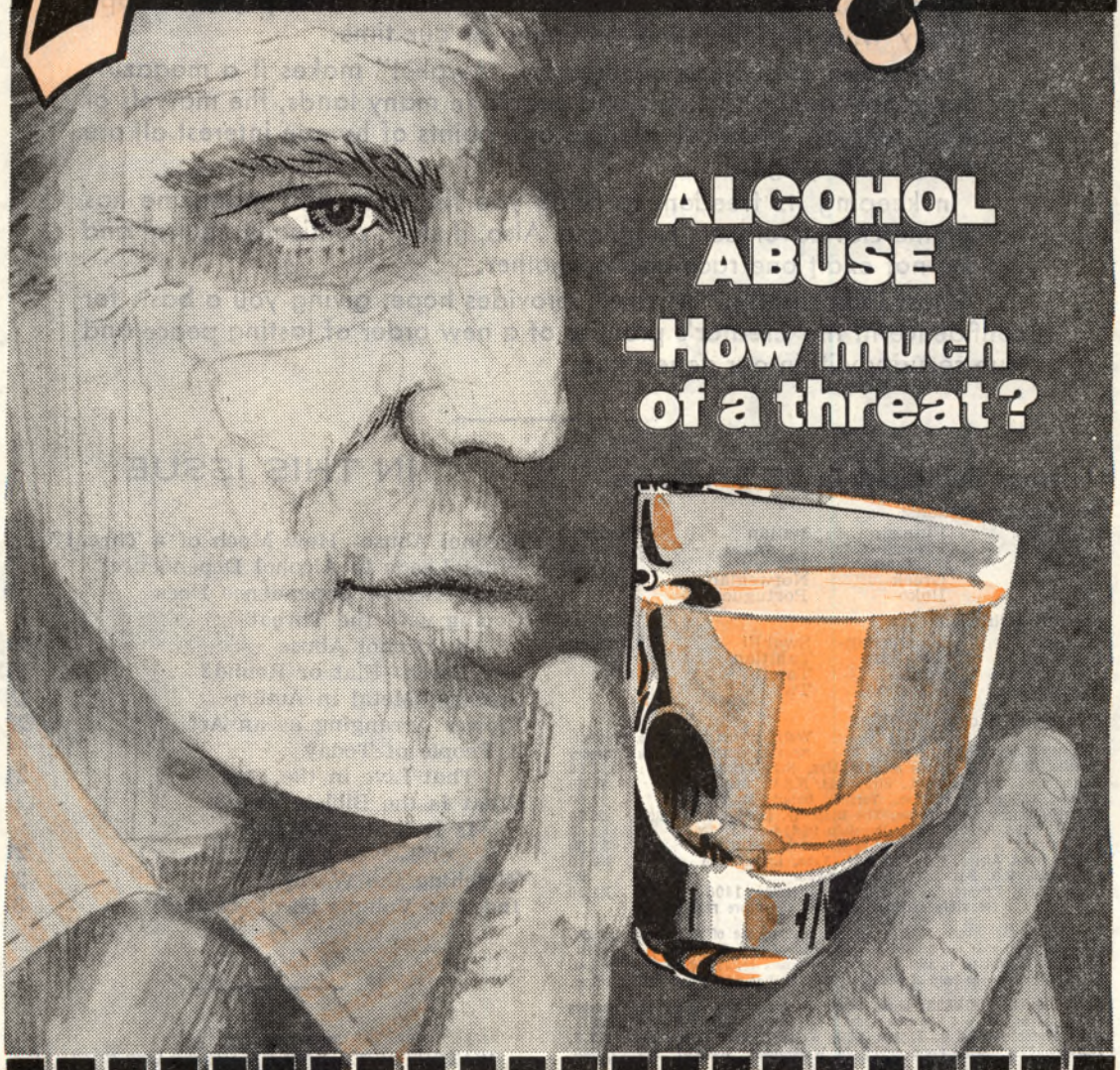
Awake!



ALCOHOL ABUSE
-How much of a threat?

DECEMBER 22, 1977

Awake!

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

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

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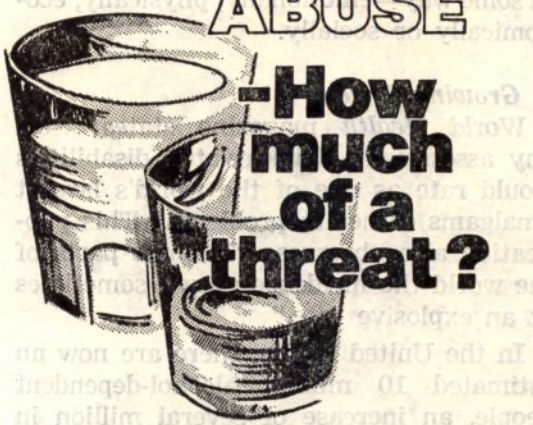
ALCOHOL ABUSE



—How much of a threat?

More people than ever before are having problems with alcoholic beverages. Tens of millions of persons throughout the world have become dependent on alcohol to the point where it is damaging their lives. But it is not only their own welfare that is being threatened by alcohol abuse. Millions of others who do not have a drinking problem are affected by those who do.

THE word "abuse" means the misuse of something that can have its proper place in the lives of people. But because something is misused, that does not necessarily mean that it must be condemned for everybody.

Alcoholic beverages can be enjoyed by people who want to use them, in moderation and under control, usually without any ill effects. But when they are used in excess, then this becomes an abuse of alcohol, which is harmful, even deadly, to the abusers as well as to others.

The fact that alcoholic beverages need not be condemned can be seen in the Bible. There God is spoken of as arranging a future time of happiness for mankind when, among other things, he will provide "a banquet of well-oiled dishes, a banquet of wine." (Isa. 25:6) Surely the Creator would not use wine as a symbol of happiness if it were an item forbidden to mankind. Also, Jesus Christ made "fine wine" at a wedding celebration, showing that it can have its proper place.—John 2:1-10.

Who Are the Alcoholics?

A common impression of an alcoholic is that of a stupefied drunk lying on a sidewalk. But that is the exception, not the rule.

It is estimated that about 95 percent of those who have serious drinking problems are not hopeless, habitual drunks. They are not any one particular type of person, either. They make up a cross section of society such as you will find in any neighborhood, holding jobs, caring for homes, raising families.

Alcohol abusers are found in all age groups. However, the most rapid increase now is among younger people and women. Sadly, many more pre-teen-age children are becoming involved with alcohol abuse.

Of course, a person who may drink immoderately at times is not necessarily an alcoholic. For instance, he may be careless on an occasion, drink too much and lose control of his senses. But he may thereafter get very good control over his drinking and not repeat his indiscretion.

However, people who have a definite drinking problem have this in common: to a lesser or a greater degree they are *dependent on alcohol.* They do not want to be, yes, they feel that they cannot be, without it.

What they also have in common is that their alcohol dependence harms their lives in some way—emotionally, physically, economically or socially.

A Growing Threat

World Health magazine states: "On any assessment, drink-related disabilities would rate as one of the world's largest amalgams of health problems." This publication also observes: "In most parts of the world the incidence grows, sometimes at an explosive rate."

In the United States, there are now an estimated 10 million alcohol-dependent people, an increase of several million in recent years. Millions of others are acquiring unwise drinking habits that could lead to alcoholism.

The threat to life and happiness by alcohol abuse is very real; it is no joke. For example, a vehicle driver who has been drinking is a major threat to life. Each year, in the United States alone, an estimated 25,000 people die in alcohol-related traffic accidents. That is about half the highway deaths. And some 500,000 are injured by drinking drivers. Most of the drivers who had been drinking were not just 'social drinkers,' but were problem drinkers, alcohol-dependent drinkers.

IN COMING ISSUES

- ***A Life Without Pain —Is It Really Possible?***
- ***Supersonic Service Brings Rewards.***
- ***Tragedy at Sea.***

In a California study of 1,000 fatally injured drivers, 65 percent of those responsible for the accidents were under the influence of alcohol.

In addition, each year there are about 20,000 deaths from alcohol-related accidents in the country, other than highway accidents. Nearly two thirds of all the murders and almost a third of all the suicides are alcohol related, as well as half the fire deaths and drownings. Thousands die from alcohol-related illnesses.

In fact, in the United States, each year far more people are killed or injured due to alcohol abuse than were killed or injured in any year of the Vietnam War. Also, Federal Bureau of Investigation reports indicate that over 40 percent of all arrests involve alcohol-related incidents.

Drinking has become so widespread and troublesome that about one out of every five Americans polled says it is causing serious trouble in his or her family. So strongly do some feel about such difficulties that about 20 percent now favor a return to prohibition.

Alcohol abuse threatens innocent persons in another way. Dr. Fritz Henn, a psychiatry professor at the University of Iowa Medical School, says: "In our studies and in others, alcohol seems to be involved in a large number of both rapes and child molestations. It is probably the single most consistent feature in either of these offenses."

About one out of every 10 workers in the United States has some degree of alcohol dependence. This results in a drain of about $25 billion a year to the economy from illness, absenteeism, inefficiency and accidents. "Excessive drinking is responsible for more loss to industry than all other diseases combined," relates *U.S. News & World Report.*

In the Soviet Union, the press continually reminds its readers that a large share

of crime, traffic accidents, divorce, job absenteeism, juvenile delinquency and drownings is to be attributed to alcohol abuse. The government has raised the price of alcoholic beverages in its attempts to stem the rising tide of alcoholism.

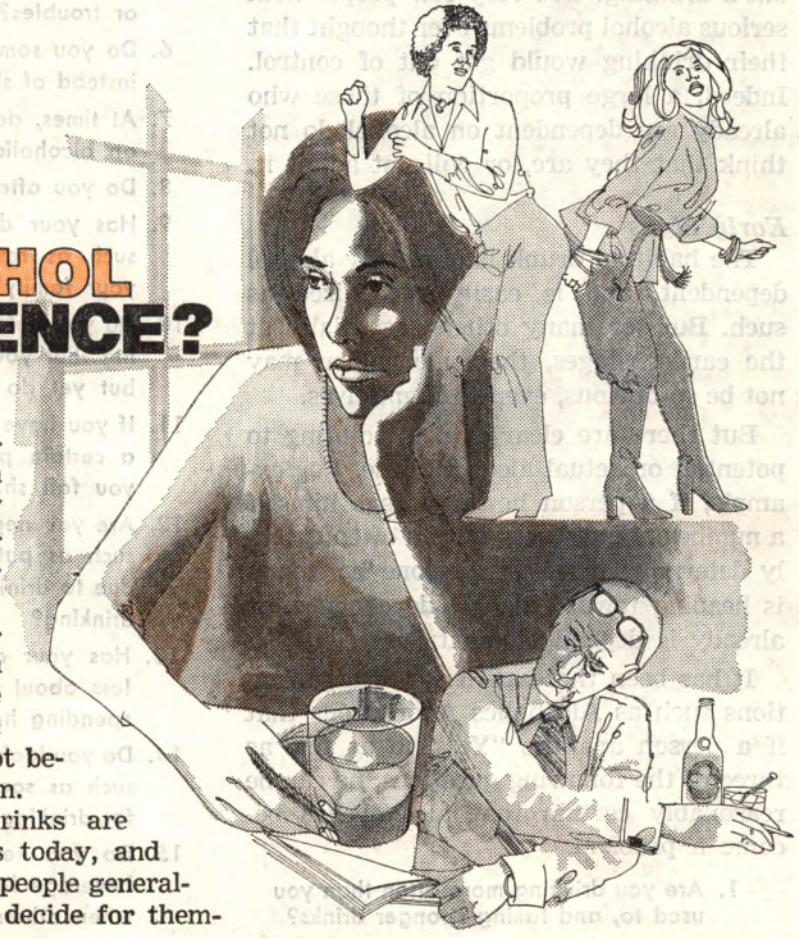
Alcoholism is considered France's largest domestic problem. A judge in the city of Lille said that the most common complaint by women seeking divorce was their husband's drinking. In Brest, a police chief stated: "I have seen so much alcoholism that it has traumatized me—and I can't help thinking about all the cases we miss."

Sixty percent of the country's industrial accidents were blamed on alcohol abuse.

In a South American country, a high official called alcohol abuse his country's "most serious social disease." In nation after nation, the reports are similar.

Without question, then, a plague of alcohol abuse—of major proportions—is sweeping over large parts of the world. But how and why does alcoholism develop in a person? How can you tell if someone is becoming alcohol dependent, or already is? How can people with serious drinking problems be helped?

WHAT LEADS TO ALCOHOL DEPENDENCE?



WHY do people become dependent on alcohol? Are there early warning signs that a person is in danger of becoming an alcoholic?

Of course, the immediate cause of alcoholism is the alcohol. If people did not drink alcoholic beverages they would not become dependent on them.

However, alcoholic drinks are available in most places today, and will continue to be. Too, people generally want the freedom to decide for them-

A large proportion of those who already are dependent on alcohol do not think that they are, or will not admit it

selves if they will drink or not. And in many societies, it is not likely that the problems would disappear by outlawing alcoholic beverages. The era of prohibition in the United States showed that.

What is needed is good control over one's drinking. Yet very few people with serious alcohol problems ever thought that their drinking would get out of control. Indeed, a large proportion of those who already are dependent on alcohol do not think that they are, or will not admit it.

Early Signs

The habitual drunk is obviously alcohol dependent, and is easily recognized as such. But for many others, especially at the earlier stages, their alcoholism may not be so obvious, even to themselves.

But there are clear signals pointing to potential or actual alcohol abuse. For example, if a person honestly asks himself a number of questions, he can often quickly determine if he or someone he knows is heading toward alcohol dependence, or already is dependent on it.

It has been the experience of organizations such as Alcoholics Anonymous that if a person answers "Yes" to as few as three of the following questions, he can be reasonably certain that alcohol has become a problem.

1. Are you drinking more often than you used to, and taking stronger drinks?
2. Are you taking a number of drinks every day, or even on several days a week?
3. Has drinking affected your reputation?
4. Are you resentful when others caution you on your drinking?
5. Do you drink to escape from worries or troubles?
6. Do you sometimes gulp down drinks, instead of sipping them?
7. At times, do you have a craving for an alcoholic beverage?
8. Do you often drink alone?
9. Has your drinking caused problems, such as resentment by members of your family?
10. Do you defend your drinking by feeling that you could stop at any time, but yet do not stop?
11. If you have tried to stop drinking for a certain period, say a month, did you fall short of your goal?
12. Are you neglecting your appearance, such as putting on excessive weight due to drinking, but yet you keep on drinking?
13. Has your drinking made you careless about your health, job, money-spending habits or family's welfare?
14. Do you look for, or arrange, occasions such as social gatherings as excuses for drinking?
15. Do you keep a bottle of alcoholic beverage hidden somewhere to drink when others are not looking?

Just a few "Yes" answers to such questions can indicate trouble. Many "Yes" answers would show that some degree of alcoholism is already well established.

But why do people develop problems with alcohol in the first place? What factors come into play?

Many Factors

It is difficult to single out any one condition or attitude that leads a person to becoming dependent on alcohol. The human body, mind and emotions are very complex. And people differ greatly from one another in mental, emotional and physical makeup.

Even body size makes a difference. Larger persons have more water in their bodies than do smaller persons. Alcohol is diluted by water. So all other things being equal, a smaller person usually will be more quickly affected by the same amount of alcohol than will a larger person.

Also, where all factors, such as body size, background, problems and pressures, and drinking habits, appear to be similar, one person who begins drinking will eventually become addicted while another in the same set of circumstances will not. So it cannot be said that a certain problem, emotional disposition, childhood experience or cultural environment will automatically produce an alcoholic.

Yet, there are factors that produce higher rates of alcoholism. For instance, where a society is alcohol-oriented, promoting and advertising it, showing it to be common at social events and eating places, then more people will be induced to drink. And when heavy drinking or drunkenness is portrayed not only as common but at times even as humorous, then the stigma against alcoholism lessens.

In such an environment, especially at social gatherings, a person is made to feel awkward, almost like an outsider, if he does not drink. Those who are trying to abstain from alcohol because of having problems with it may find themselves under constant pressure to conform.

Economic factors can also play their part. There is much alcohol abuse among some poor people, particularly in the large cities of the industrial societies. Poverty can bring on a feeling of hopelessness, with alcohol's sedative-like quality temporarily masking the pain of reality.

On the other hand, affluence in some countries has brought with it greater drinking by middle- and upper-income groups. Also, there are job and social pressures that lead to more drinking. A study of the drinking habits of 8,000 American executives revealed that 27 percent were very heavy drinkers, consuming an average of six or more ounces of alcohol every day, seven days a week. In Japan, it is reported that about 60 percent of persons in supervisory positions have drinking problems. And more housewives in wealthier nations are now becoming alcoholics.

Marital and family problems often turn one mate, or both, to alcohol in an attempt to find relief from unhappiness. Loneliness can also lead one to drink too much,

People who drink to excess to try to lessen problems, anxiety or depression always find that they end up with greater problems, anxiety and depression

In a society where heavy drinking is condoned, and where millions of adults are dependent on alcohol, more young people will become dependent on it too

as can disappointment, a fear of the future, a lack of confidence, or even a tragedy such as the death of a loved one.

But people who drink to excess to try to lessen problems, anxiety, or depression, always find that they end up with greater problems, anxiety and depression. These are the inevitable consequences of alcoholism.

Youthful Drinking

A group of doctors, writing to the New York *Times,* stated: "An especially deep concern of our time is the startling increase in teen-age drinking, with dramatic increase in the prevalence of general alcohol abuse, alcoholism and multiple addiction."

The main health problem of young people in the United States is alcoholism. It ranks as a far more serious threat than addiction to "hard" drugs such as heroin. A government official calls it a "devastating problem . . . of epidemic proportion."

A survey revealed that about one third of the nation's high school students have drinking problems. And now alcohol dependence is being found in children who are even younger, not yet in high school.

In Germany, researchers at the University of Kiel state that a sixth of Germany's young people between the ages of 10 and 18 are "threatened by alcoholism." Other lands where alcoholism generally is increasing also find that their young people are more involved.

One immediate result is noted by the Boston *Sunday Globe,* which said: "Traffic fatalities involving teenage drivers who drink since the drinking age was lowered [have] gone up three times."

But why are more young people drinking? One reason is 'peer pressure,' the influence of friends. "All my friends drink," said one young person in a typical statement. Another declared: "I didn't want to look 'square,' so I started drinking."

As with adults, many young people drink because, as one said: "Drinking makes me feel happy and helps me have a good time." Some other reasons young people give are: they are bored with life; have problems at home or in school; or fear the future in a world of harshness and uncertainty.

But the most common reason given by young people for their drinking habits is the influence of parents and adult society in general. The book *Teen-Age Alcoholism* states: "In the case of drinking, though the influence of the peer group is important, parents have the greatest influence." In Germany, it was found that where the father drinks a lot, his children more often do too.

But many parents do not abuse alcohol. And they insist that their children not drink to any regular degree until they are old enough to do so responsibly. Studies have found that in such families half as many young people are getting into trouble with alcohol compared with families where parents themselves drink heavily.

Where adult drinking is commonplace in a society, many youths will imitate

what they see older people doing. As an example, one youth who watched western movies on television stated: "The men in those movies drank whiskey. I started to drink whiskey to be tough like them."

You reap what you sow. In a society where heavy drinking is condoned, and where millions of adults are dependent on alcohol, more young people will become dependent on it too.

Yet, while many factors can lead up to alcoholism, what happens to a person's system that makes him become dependent on the alcohol? With what results?

WHAT ALCOHOL DEPENDENCE DOES

THE person who drinks only occasionally, and sparingly, rarely becomes dependent on alcohol. Only a very small percentage of people have no tolerance for it at all.

The vast majority of those who become alcoholics get that way because they drink too much over a long period of time. Without question, the more heavily a person drinks, the greater does he risk becoming dependent on alcohol.

Types of Dependence

To be dependent on alcohol means to be addicted to it. One type of this dependence, or addiction, is psychological. This is a mental or emotional dependence.

In psychological dependence, a person feels a compulsive need for alcohol to relieve his emotional discomforts. He does not want to face life and its problems without the crutch of alcohol. However, he is not yet physically addicted to it.

But psychological dependence often becomes actual physical addiction. Now, not only do the mind and emotions demand the alcohol, but the body does too.

With the prolonged abuse of alcohol, chemical changes take place in the body. The cells and tissues literally become dependent on alcohol and in time do not function well without it. These bodily changes hinder a person's self-control, so that he craves the alcohol even more.

While he thinks he is relieving his body's needs by heavy drinking, actually he is setting the stage for a breakdown. Sooner or later, if continued, his addiction will result in severe damage to his body organs and the shortening of his life-span.

The reasons why the body becomes physically addicted are not positively established. Some of the theories include: allergy to alcohol; abnormal sugar metabolism; hormone deficiency of the thyroid, pituitary or adrenal glands; a dietary or metabolic deficiency of vitamins, minerals, enzymes or other nutrients; liver dysfunction; and a defective hypothalamus, which causes an uncontrollable thirst for alcohol.

How long does it take a person who begins drinking too much to become physically addicted to alcohol? For most persons, it takes a number of years. Some drink heavily for 20 or 30 years before becoming addicted; others for ten years;

some for three to five years, and a very few experience addiction almost immediately.

Especially when physical dependence sets in does the alcoholic's life become increasingly affected. His efficiency begins to be cut down, and it is noticed at his work. More days away from the job follow due to "illness." His self-esteem suffers, as do his relationships with others.

He may try to compensate by being overly generous, spending money freely, even getting deeply into debt. But his social isolation grows as he becomes ill-tempered and difficult to get along with.

Ultimately he may lose his job, friends and family. Drinking becomes more important to him than anything else, including eating. He neglects his appearance, health and responsibilities.

World Health magazine states: "The dependent drinker who continues drinking amasses more and more disabilities . . . and his life expectancy will certainly be curtailed."

Damage to the Body

Alcohol contains no vitamins, minerals or proteins, although it contains calories. Thus, people who drink a lot may feel full and put on weight, but they are not being nourished. And since the alcoholic often loses his desire for food, his body is more susceptible to disease from undernourishment.

Overuse of alcoholic beverages can damage the lining of the stomach and small intestine, causing inflammation and ulcers. Stomach muscles can lose their tone, digestion is hampered, and nausea may occur.

In the Bahamas, where, as *Physician's Alcohol Newsletter* reports, "Alcoholism is the number one health problem," many have a condition known as "alcoholic foot." This is the chronic ulceration and gangrene of the foot that at times requires amputation.

A particularly damaging condition that results from too much drinking is cirrhosis of the liver. This ailment ranks as one of the leading causes of death among young and middle-aged adults. In France, according to government figures, over 22,000 died from cirrhosis of the liver in one year. In the United States, twice as many people died from this disease in a recent decade compared with the previous one, largely the result of increased drinking among the population. In Denmark, deaths from cirrhosis rose 40 percent in three years, due to increased drinking. In Italy, these deaths doubled in eleven years.

Dr. Frank A. Seixas, medical director of the National Council on Alcoholism in America, says: "For the first time, we're getting medical evidence which confirms the observations doctors have made—and dodged—for years: alcoholism and cirrhosis are very closely linked."

In one experiment, Dr. Charles Lieber of Mt. Sinai School of Medicine in New York gave a group of volunteers a nutritionally superior diet for 18 days. During this period they each consumed six drinks over the course of a day, totaling 10 ounces of 86-proof whiskey daily. While it could be seen that they were under the influence of alcohol, none were drunk to the point where they lost complete control of their senses. Yet all of them had clear evidence of the beginning of harmful liver changes after only a few days.

Chronic heavy drinking also contributes to a variety of heart diseases, the primary cause of death in some countries. In fact, excessive amounts of alcohol can cause heart failure by paralyzing the cardiac nerves. It can also paralyze the respiratory center of the brain, causing breathing to become slow and possibly to stop altogether.

If a pregnant woman indulges in prolonged heavy drinking, she may seriously damage her child

Brain Damage

Prolonged heavy drinking destroys brain cells. And the body is not able to replace these the way it does other body cells.

Autopsies of chronic alcoholics have revealed massive destruction of brain cells. Such brain damage can bring on or aggravate various mental disorders, including paranoia, a form of insanity characterized by a persecution complex; and schizophrenia, a "splitting" of the personality. For instance, it is reported that every third bed in France's psychiatric hospitals is occupied by a victim of alcohol.

In the latter stages of alcoholism, *delirium tremens* can occur. This happens when alcohol suddenly becomes unavailable, or is available only in very small amounts. They may also occur after a long "bout" of drinking. First, there are tremors, or shakes, all over the body. The appetite is lost, and nausea sets in. The victim becomes feverish and moves about at random. Hallucinations follow. Things are seen that are not there, such as spiders, rats and flies coming out of the walls or floor.

The terror of such delirium, or "madness," can lead to suicide. It can also cause permanent mental feebleness—or death, as this condition is said to have a 20-percent mortality rate.

If a person in the advanced stage of alcoholism is not to die, he must be "detoxified." He must stop drinking long enough for his body to eliminate all traces of alcohol and restore itself to a more normal level. But that may take weeks or months. And some damage, such as liver or brain damage, may be irreversible.

In young people, damage to health can occur faster. Their bodies are not mature, are smaller, and so are not able to handle the alcohol as well as is an adult's body.

Innocent Victims

Among the most innocent victims of alcoholism are babies. A mother's heavy drinking during pregnancy can result in a baby's being born mentally retarded or physically defective—or both.

Dr. Jaime Frias, director of a birth defect center at the University of Florida, states: "From the clinical data now gathered, it can be stated accurately that a woman who drinks alcohol chronically during pregnancy stands a 50 per cent chance of having a child with some degree of mental retardation and a 30 per cent

chance of having a child with additional multiple physical malformations."

Dr. David W. Smith, professor of pediatrics at the University of Washington's School of Medicine, says: "Alcohol is today's principal cause of physical defects in developing human embryos."

Researchers have reported that babies have been born "drunk." Their blood had an alcohol content higher than what is considered evidence of legal drunkenness in many areas. Even withdrawal symptoms have been observed in some newborn babies.

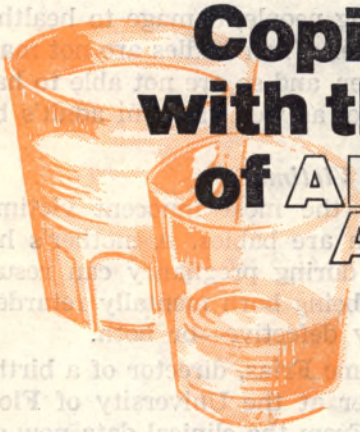
Regarding the damage to babies, the Detroit *News* reports: "Doctors agree that effects of the syndrome are irreversible and that many victims require special care throughout life, either at home or in institutions."

What is considered "heavy drinking" by an expectant mother? Opinions vary. Dr. Smith says that five drinks a day constitute heavy drinking. And one definition of a drink is a "cocktail containing an ounce of 100-proof whiskey (50 percent alcohol)." Dr. Smith warns that heavy consumption of beer or wine during pregnancy can have the same results.

However, *Medical World News* stated recently: "Alarmed by rapidly accumulating evidence that even moderate alcohol consumption can harm a developing fetus, the National Institute on Alcohol Abuse and Alcoholism is strongly urging that the government formally caution all pregnant women against more than two drinks a day." It added that the evidence is "very convincing, and it is very worrying."

Thus, in every way, the cost of alcohol abuse is enormous. And the problem is worsening, as more and more people are drinking to excess.

But what can be done to avoid becoming dependent on alcohol? How can a person who already is dependent be helped?



Coping with the threat of ALCOHOL ABUSE

WHERE alcohol abuse is concerned, "an ounce of prevention is worth a pound of cure." It is far, far better not to become dependent on alcohol than to do so and then have to face the consequences.

That "ounce of prevention" should start in childhood. Young ones should learn from their parents the proper view of alcohol. Parents have an enor-

mous influence on their offspring by what they say and do. When they keep their own drinking well within the limits of moderation, their children will not grow up thinking that habitual and heavy drinking is normal for adults.

When—and if—parents decide that a son or daughter is old enough to have an occasional alcoholic beverage (keeping in mind local laws), then it should be carefully explained why caution is needed. The young person is very inexperienced, his body is smaller and not used to alcohol, so he cannot handle it as well.

Prevention for Adults

Prevention is the best policy for adults, too. They should recognize alcohol for what it is: a beverage that can add a certain amount of enjoyment, but when abused, can turn into a deadly threat.

If you are hosting a social gathering, there is no need to feel that alcoholic beverages must be offered without limit. They should be offered in moderation, if you choose to offer them at all. Have some nonalcoholic beverages to offer also, and do not make a guest feel ill at ease if he chooses a "soft" drink. And if a guest does have a drink or two, a wise host will be careful not to continue offering drinks indefinitely. Do not try to force guests to drink, such as by filling their glasses whether they want another drink or not.

When you are a guest, do not feel that you must continue drinking just because alcoholic beverages continue to be served. If a host is too "pushy" with drinks, you can politely decline, including comments such as, "That's my limit," or, "No more at this time." If, in spite of such a refusal, the host pours the drink anyway, you are under no obligation to drink it. Let your "No" mean "No." The good host should acknowledge this.

Especially should caution be shown by a host later in the evening when guests must go home by automobile. Continuing to offer drinks late into the night, or giving a guest "one more drink for the road," is no kindness. It can cost his life—and the lives of innocent victims.

The number of people driving automobiles under the influence of alcohol increases late at night. So if you are driving at that time, proceed with extra caution. This is particularly the case during weekends or holidays, when people have a tendency to overdrink.

Also, when driving, do not insist on your technical "right of way." People under the influence of alcohol often ignore the rules of the road. Remember, about half of those killed in automobile accidents were "in the right." They were not the guilty party in the accident. But they were killed anyway.

Regarding prevention, earlier this year an example of it on a large scale was adopted by the commanding General of American troops in Europe. He notified his officers: "You are well aware that alcohol abuse in the U.S. Army in Europe has reached such proportions that we must all join forces to meet this problem head-on." In order to "de-emphasize and deglorify the use of alcohol," the General ordered the "Happy Hour" observed at army clubs throughout Europe abolished. This was a period of about two hours in the early evening, one day a week, when drinks were sold at half price. His canceling of this was an attempt to discourage alcohol abuse.

Helping the Body

It is also helpful to know how the body deals with alcohol. In this way a person who does drink can better understand how to avoid abusing his body.

Alcoholic drinks are not processed by the body in precisely the same way that most foods are. Most foods are oxidized slowly in different stages, first in the stomach and small intestine. This allows for nutrients in the food to be absorbed into the bloodstream for distribution to other parts of the body. But alcohol is absorbed into the stomach and small intestine virtually unchanged in form. Then it is carried by the blood to the liver.

The liver has a set rate at which it oxidizes the alcohol. When it gets more than it can handle, it sends the rest away to the bloodstream, unoxidized. It is carried to the heart, which pumps it through the circulatory system to reach other parts of the body. Eventually it returns to the liver, which accepts some more for oxidization and sends the rest back. This process continues until it is completely oxidized.

When a drink, either "hard" liquor, beer or wine, is sipped slowly and not "gulped" down, then the liver can more easily cope with the alcohol. It is getting it in manageable amounts. Relatively little will be sent back out into the bloodstream unoxidized.

There is no way that the average drinker can speed up the liver's oxidation process. Drinking black coffee, taking cold showers, or deep breaths of fresh air, do nothing to speed the process. The best help the body can get is to drink only a few drinks, to drink them slowly, and space them out over a period of time. This is true not only of whiskey, but of other drinks, since a can of beer or a glass of wine contain about the same amount of alcohol as a shot of whiskey.

Problem Drinkers

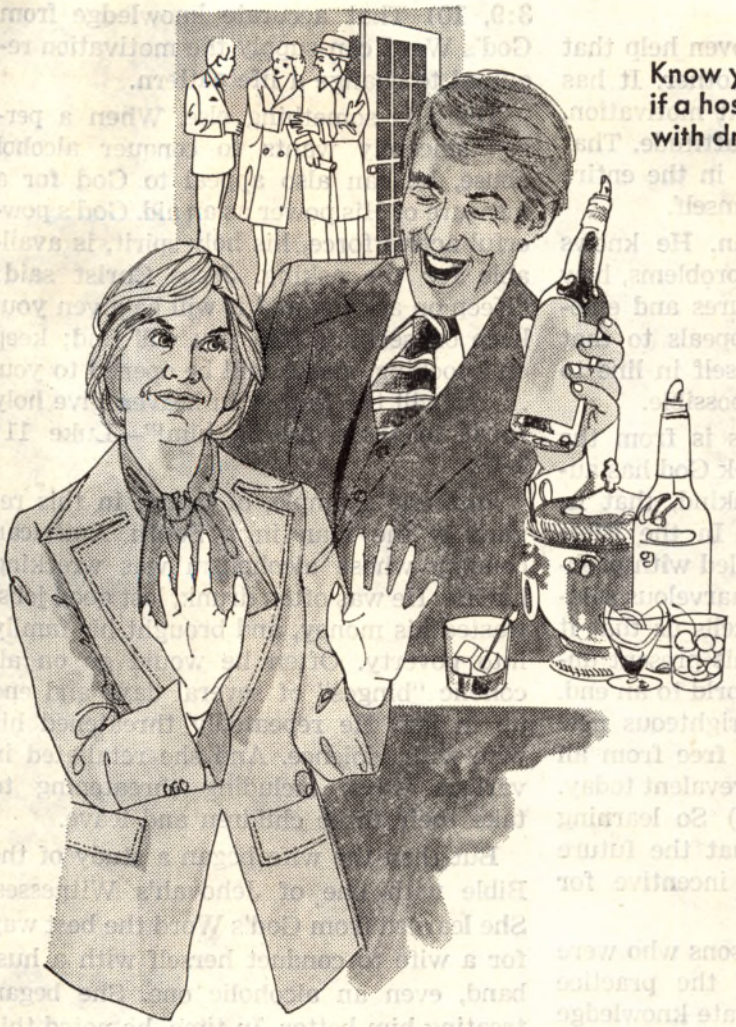
However, what if drinking has already become a serious problem? What can a person do to help himself? What can others do?

The problem drinker needs to face the fact squarely that he is in trouble with alcohol. He should not delude himself by thinking that he can stop drinking whenever he chooses. For too many alcoholics, this illusion persists as they continue to drink until they damage their health, become mentally deranged, or die from their drinking.

The first step for a problem drinker is to admit that his drinking is a problem so that he can be helped. If this is not admitted, there is little likelihood of his dealing with it in time. But in the majority of cases, alcoholics will not admit to their alcoholism. The mental process that led them to becoming an alcoholic hinders them from doing anything about it. That is why the families and friends of such a person should try to help him.

Can official agencies be counted on to handle the problem? Of course, there are various ones in different lands that can be of assistance. But note what *World Health* says: "The number of countries in which any adequate response to alcohol-related problems has been mounted has so far been small. Similar inaction in the face of an infectious illness which wrought such havoc would be seen as sadly culpable, and any 'drug' problem of similar dimensions would certainly cause alarm."

Why is this the case? *World Health* answers: "For so many countries [alcohol] is the accepted, cherished, and literally hallowed drug of society's choice. . . . Alcohol is fun, hospitality, friendship, fiesta, reach-me-down nerve tonic, manliness, romance, celebration, the drink which clinches the bargain, laughter, snobbery and sacrament. What would we do without it? How can it really threaten our health?



Know your limit; if a host is too pushy with drinks, politely decline

Anyone who puts a contrary view is dismissed as a kill-joy."

However, as the publication points out, alcohol abuse is a major threat to health, happiness and life itself. But it should not be assumed that some agency is going to handle the problem.

Nor should a person think that alcoholism can be allowed to develop and then be cured by some medical treatment. There is no medical "cure" for alcoholism. While a number of things can be helpful, such as an improved diet and nutrition, overcoming low blood sugar, medication and hospitalization, more is needed. The basic problem still is in the mind and heart of the individual.

The alcoholic who has been treated only "clinically" without proper attention to motivation and other similar factors, nearly always reverts to alcoholism. The main factors in recovery are: early treatment, the patient's earnest desire and determination to improve, and the help of those close to him.

While some psychiatrists believe that discussing an alcoholic's problems and telling him or her what alcohol is doing to the body will help to convince the person to stop drinking, Dr. Benjamin Kissin of New York states: "I haven't found that quite satisfactory here at the clinic. It's not enough." He adds: "We try to change the life pattern."

Without doubt, changing one's life pattern is essential. So is discontinuing one's unwholesome associations, abandoning those who are not really friends but who contribute to one's alcoholism. Yet, from where can such powerful motivation come to help to change one's whole life pattern?

Most Powerful Help

There is one source of proven help that is more powerful than any other. It has helped many to get the right motivation, the right mental and heart attitude. That source is the most powerful in the entire universe, Almighty God himself.

Jehovah God created man. He knows best how man can solve his problems, how best to cope with his pressures and emotions. So when a person appeals to that source of help, he puts himself in line to receive the very best help possible.

One way this help comes is from the fine counsel found in the book God has authored as a guide for mankind, that is, his Word, the Holy Bible. In the Bible we find out why life is so filled with problems and we also learn the marvelous solution that God promises. It tells us that it is God's purpose to bring this present unsatisfactory, trouble-filled world to an end. He will replace it with a righteous new order, a paradise on earth, free from all the bad things that are so prevalent today. (Luke 23:43; Rev. 21:4, 5) So learning the purpose of life and what the future holds is a very powerful incentive for 'changing the life pattern.'

The Bible shows that persons who were once drunkards abandoned the practice when they came to an accurate knowledge of God's purposes. It mentions drunkards along with fornicators, idolaters, thieves and others, and then says: "Yet that is what some of you *were*. But you have been washed clean, but you have been sanctified, but you have been declared righteous."—1 Cor. 6:9-11.

Because overcoming alcoholism is definitely possible, the Bible counsels: "Strip off the old personality with its practices, and clothe yourselves with the new personality, which through accurate knowledge is being made new according to the image of the One who created it." (Col. 3:9, 10) That accurate knowledge from God's Word can supply the motivation required to change a life pattern.

There is something else. When a person sincerely wants to conquer alcohol abuse, he can also appeal to God for a measure of His power as an aid. God's powerful active force, his holy spirit, is available for the asking. Jesus Christ said: "Keep on asking, and it will be given you; keep on seeking, and you will find; keep on knocking, and it will be opened to you. . . . so will the Father in heaven give holy spirit to those asking him!"—Luke 11:1-13.

Just one example, of many, in this regard is the man in a South American country whose alcoholism was wrecking his life. He was often drunk, lost good jobs, wasted his money, and brought his family into poverty. Often he would go on alcoholic "binges" of several days and end up in jail. He repeatedly threatened his wife with violence. And she retaliated in various ways, including threatening to take their three children and leave.

But then the wife began a study of the Bible with one of Jehovah's Witnesses. She learned from God's Word the best way for a wife to conduct herself with a husband, even an alcoholic one. She began treating him better. In time, he noted this and wanted to know what could make such fine changes in her. So he too began studying the Bible. As he learned more, he depended less and less on his drinking.

Then he agreed to medical treatment for his alcoholism. But he did not finish the treatment. Why not? He said that because of what he had learned, he now had enough willpower to stop drinking. And he did, completely abandoning it. He also changed his associations, refusing to be part of the drinking parties his former friends still had.

As a result, his entire life improved. He had a much happier family life, better relationships with others, could hold a job and was able to afford better housing. What is of great interest here is that he said it was not the medical treatment, but the determination that he was able to get with the aid of the Bible, prayer, his wife's help, and upbuilding associates.

Nor is this an isolated case. Many similar experiences from different parts of the world show that alcoholism can be conquered.

However, once a person has overcome his dependence on alcohol, he needs to exercise great caution. For most former alcoholics, the best advice regarding alcoholic drinks is: don't touch them! Nearly all authorities agree that, for former alcoholics, total abstinence from alcohol is the best course. A relatively small percentage can regain control to the point where they are able to drink moderately and not revert to alcohol abuse. But most others cannot.

Thus, while alcoholic beverages can add some pleasure to life, they should be handled as one would handle an explosive device: with extreme care. Otherwise, the "explosion" will create problems so severe that even life can be destroyed.

THE EARTH—FLAT OR ROUND?

● When did men first suspect that the earth was round, not flat? In the days of Christopher Columbus? No. Earlier than that! Irving Robbin wrote: "To believe that one could sail to the East by sailing west, one must also believe that the earth is a sphere. A Genoese sea captain named Christopher Columbus believed this, but he was not alone. He was not alone by many centuries, for as far back as 500 B.C., a Greek scholar, Pythagoras, asserted that the earth was round. A Norwegian textbook written in 1250 not only said the same thing, but also gave the reasons for the varying climates of the earth, the angle of the sun at different times of the year and the prevailing winds. Not all the ancient knowledge had been lost—it was just out of favor for a while."—*The How and Why Wonder Book of Explorations and Discoveries.*

● Pythagoras lived about 540 to 500 B.C.E. Much earlier, however, the Hebrew prophet Isaiah, of the eighth century B.C.E., indicated that the earth was spherical. He wrote: "There is One [Jehovah God] who is dwelling above the circle of the earth, the dwellers in which are as grasshoppers." (Isa. 40:22) The Hebrew word here rendered "circle" also may be translated "sphere." (*A Concordance of the Hebrew and Chaldee Scriptures,* by B. Davidson) Interestingly, regarding "circle" in this verse, the Scofield Reference Bible says in a marginal note: "A remarkable reference to the sphericity of the earth." Moffatt's translation reads: "He sits over the round earth," and the Catholic *Douay Version* says here: "It is he that sitteth upon the globe of the earth." Of course, the inspired Word of earth's Creator would properly indicate that the earth was round, though the ancients in general thought it was flat.

SPRINGS

—METAL IN ACTION

By "Awake!" correspondent in Canada

IMAGINE driving your car through heavy traffic and then, as you take your foot off the accelerator pedal, nothing happens! The pedal stays down and your car continues its excessive speed. Quick action in applying extra pressure on the brakes may stop your car in time. But such an emergency seldom develops. Why? Because of a small, reliable spring that returns the accelerator pedal to its neutral position when you release foot pressure.

Leading the busy lives that we do in a highly mechanized society, we have come to take springs for granted. Yet springs play a vital role in the things that we use daily, from cars to airplanes, from typewriters to computers, from clocks to washing machines, from mousetraps to mattresses. If the object operates mechanically, chances are it has one or more springs fulfilling an important function somewhere in its operation.

Origin of Springs

Although we observe springlike action in created living things, particularly in grass, plants and trees, as far as man-made springs are concerned, they may have been employed from the very earliest times, when men began to be forgers of copper and iron. (Gen. 4:22) Metal springs dating back to early history (not, of course, as early as pre-Flood days) have been found all over Europe and Asia. These are usually in the form of spring-type clasps, and they were made of copper or brass, hammered into shape by skilled craftsmen. It appears that these early people even used a fastening device to help to hold up clothing in much the manner that a safety pin might be used today.

One of man's early uses of spring energy was in a weapon—the bow. This was followed by the introduction of large catapults that were used to hurl stones or other missiles at an enemy. These machines were of massive size. By means of sudden release of tension on wooden beams or on twisted cords of various fibers and materials, huge missiles were hurled with tremendous force, greatly damaging enemy fortifications. The Jewish historian Josephus describes the power of the Roman catapults used in the siege of Jerusalem. He says that they could hurl stones of a talent in weight a distance of two furlongs,

or a quarter of a mile (.4 kilometer). (A Greek talent as used in Roman times weighed 61.6 pounds [27.9 kilograms].)

The Bible also tells us that King Uzziah (829-777 B.C.E.) had his engineers design engines of war for the defense of Jerusalem, these being capable of shooting arrows and great stones from the city's towers. What type of power these engines employed is not stated, though it was likely that they used some sort of spring action (certain catapults used counterbalancing weights).—2 Chron. 26:15.

Further refinements in the use of spring action came with the development of the crossbow, which allowed the spring energy to be stored up or retained until it was released by a triggering device—indeed a devastating weapon!

Springs in Timepieces

Man's desire to know what time it is has played an important role in the development of springs as we know them today. Although historical evidence varies, it is believed that mechanical clocks first made their appearance shortly after the year 1000 C.E. and were powered by weights, not springs. These clocks were usually found in the towers of abbeys and churches.

However, as early as the beginning of the fourteenth century, watchmakers started to use springs as a source of power in their timepieces. These early craftsmen continued to improve spring quality and design, so that by the eighteenth century the flat-coil power spring was in general use in clocks and watches. Because the accuracy of their timepieces depended so much on the quality of the spring they used, these early watchmakers often became spring makers. Their constant desire for a better spring encouraged them to experiment with different methods of making steel. Eventually, alloy steels were developed that resulted in better springs and more accurate timepieces.

Materials Used in Springs

Today it is estimated that there are over 50 different compositions of materials and alloys available to the spring manufacturer. A hard-drawn wire that might be used to produce springs of the type found in mattresses is commercially inexpensive and suitable for this application. However, the same material would not be selected for use in a valve spring for an automobile engine, where heat, great stresses and fatigue would soon destroy an ordinary spring. In this case, the spring maker would likely select an oil-tempered alloy wire that would stand up under this severe application. Some springs will withstand heats up to 1,100 degrees Fahrenheit (593 degrees Celsius). Modern aircraft and spacecraft require spring alloys that are able to undergo extreme temperature changes.

The introduction of electric motors and the many modern electrical appliances that we enjoy in our homes today created a need for springs that could also serve as electrical conductors. The more common materials used for this purpose are the phosphor bronze and brass spring wires. These copper-based wires generally have lower resilience than most other materials. Such springs are not as strong as those made of steel wire. But because they are good electrical conductors, they are frequently used in electrical switches or to apply the pressure on the brushes found in motors.

There is no doubt that springs will play an important part in the mechanical things that man builds in the future. Meanwhile, the next time you put your foot on the accelerator pedal of your car, be thankful for the little spring that returns the pedal to its place and allows you to drive safely to your destination.

Flower Arranging as an Art

By "Awake!" correspondent in Brazil

A BUNCH of flowers, though beautiful, is still only a bunch of flowers. But with a little imagination and by following certain principles of design, you can transform the random collection into an elegant and artistic flower arrangement. And this will add beauty and color to your home.

What do we mean by design? It is the pattern of the flower arrangement, and it embraces the basic elements of *line, form, color* and *texture*. Slender flowers or branches supply line. The variety of the plant world itself furnishes form and color. Surface quality of the material is called texture. For example, chrysanthemums are coarse, whereas gladioli are smooth. Woody stems and leaves, too, show different textural characteristics.

Your design may be circular or triangular, or it may follow a vertical or a horizontal line or an S-curve. A pyramid, cone, oblong, or ellipse design also may be used. Once the main arrangement outline has been chosen, design calls for a planned relationship among all the components, that is, among the flowers, leaves and any other material, as well as the container or vase.

Interesting effects are achieved if the spaces in the composition vary in size and shape. When some of the plant materials in a grouping extend forward and others backward, the impression is three-dimensional.

Observing the Principles of Design

First, *balance* is important. It relates all the parts to one another. A well-balanced arrangement does not appear to be in danger of tipping over. In fact, a

1 First set the height and width of the arrangement

lopsided, top-heavy, or leaning flower arrangement would evoke a feeling of tension—something to be avoided.

Design stability depends on color as well as the size of the plant materials. Dark colors look heavier than lighter ones. Hence, a dark-red rose "weighs" more in an arrangement than a pale-pink carnation, although they are of about the same size. Therefore, if you do not want the arrangement to be "top-heavy," care must be taken to avoid massing dark colors at the top and light colors at the bottom.

Symmetrical balance is created by placing similar flowers in the same positions on each side of the vertical center. An unequal distribution of flowers and leaves on either side of the center, but with equal visual weight, produces asymmetrical balance. Its effect is more casual and natural than symmetrical balance and often more desirable and pleasing.

Therefore, dark forms and large forms arranged low on one side of the design balance a larger area of lighter and smaller forms on the other side. Likewise, the higher a form is placed in the composition, the heavier it appears to the viewer. This principle applies also to the distance from the center.

Contrasts of large and small, light and dark, and rough and smooth also add variety to the arrangement. Moreover, a composition generally has a *dominant* or *focal area.* This is the center of visual interest to which the eye is naturally drawn. It may be a solid grouping of plant material along the center and just above the rim of the container, or an area of strong color or very light colors. One or more large flowers or leaves, a blend of both, or a cluster of smaller flowers of the same kind, compose such areas of dominance.

The repetition of a particular shape, or the combination of related color values, creates a flowing line, or *rhythm.* The principle of *scale,* too, must be observed. This means that there must exist a fitting relationship between the sizes of the plant materials and the size of the container, as we will consider later.

2 Add variety of elements to fill in and add balance

3 Add solidity to the center and fill in the gaps

Proportion also is important. The *Encyclopædia Britannica* states: "Proportion has to do with the organization of amounts and areas; the traditional Japanese rule that an arrangement should be at least one and a half times the height of the container is a generally accepted use of this principle. Proportion also relates to the placement of the arrangement in a setting. A composition is either overpowering or dwarfed if placed on too small or too large a surface or in too small or too large a spatial setting."

Harmony is a sense of unity among all the components. According to *The Encyclopedia Americana,* it is "a happy appearance of being completely in tune—the flowers and foliage with each other and with the design; the colors harmonious and the container well selected for spirit, texture, shape, and color. A successful arrangement must also be in harmony with its surroundings. A bean pot of geraniums does not appear happily at home in a formal drawing room, nor is a porcelain vase of rich exotic blooms well placed in a simple cottage room."

Plant Materials and Preparation Techniques

Plant materials used in floral decorations include flowers, foliage, grasses, grains, branches, seeds, berries, nuts, cones, fruits, vegetables, shells, stones, driftwood, and so forth. Cut-plant materials, such as flowers, need special treatment. For best results, flowers are picked a few hours before they are arranged, and always in the cooler parts of the day. The tips of the stems are cut on an angle, put in deep lukewarm water, and kept in a dark cool place for several hours, preferably overnight.

Woody stems are best split up several inches, then left to soak in hot water. Sealing of milky stems, such as those of poppies and large dahlias, is done simply by placing the tips in boiling water or over a flame for a few seconds. For protection, the stems are inserted through a hole in a newspaper, which is then pulled up over them.

If you buy the flowers at a florist's shop, their stems probably have been sealed over. By recutting roses and other woody-stemmed flowers and then standing them in hot water, they will most likely revive. However, for long-lasting beauty, only flowers and foliage in perfect condition should be worked into an arrangement. Also, a simple tip to prevent bacterial decay, and the resulting bad odor, is to remove the foliage below the waterline when you start on your arrangement.

Says a *Woman's Realm* booklet: "Do not change the water daily but always keep the level topped up. Sometimes, water for long-lasting flowers such as chrysanthemums becomes discolored and even smelly. Take the arrangement to the sink and let fresh water run in, forcing the impure water out. This will save disarranging the flowers. Search the bonfire site in the garden for charcoal and use this to put in vases where long-lasting materials are used—this will help to keep the water sweet.

"One rose grower sells a preservative which helps to keep roses and other shrubs and flowers with tough stems fresh for a long time. You can also help by placing a lump of sugar or a saltspoonful of honey to each pint of water in your vases. If flowers or foliage wilt inexplicably this often means there is an air lock in the stem. To remedy this, stand the stem ends in an inch of boiling water and leave the flowers there until the water cools. Then arrange them in fresh, unboiled water."

Containers and Other Equipment

A flower arrangement includes, not only the flowers themselves, but the container that holds them and the base on which it may rest. A wooden base can add visual weight at the bottom and also protect your furniture against moisture stains.

The container must match the arrangement in scale, color and texture. For this reason, many decorators prefer to use simple, unadorned vases of such neutral colors as gray green, antique white or pale gray.

Additionally, consider the texture of the container. Coarse, heavy plant materials usually are displayed in a heavy container of copper, pottery, wood or pewter. More delicate flowers and foliage are arranged in porcelain, silver or glass.

The size of the container also is of importance. It must be of the right size so that the plant materials do not "overpower" it. On the other hand, the container itself should not dwarf the arrangement or divide the viewer's attention between the flowers and the vase. Only very small flowers go well with a miniature vase. Similarly, a massive floral arrangement in a substantial container is in scale on a heavy table in a large room.

In tall containers, flowers often are displayed without any support. If necessary, to hold them upright, the container can be stuffed with privet or other fine evergreens, such as juniper or fern, which are then cut across the rim of the vase. More often, crumpled wire netting is used for support. Then, too, water-absorbing plastic foam also has become popular as a support. Cut this to shape and soak it in water. Then simply push the stem ends into the wet plastic.

The most generally used support, however, is the needlepoint holder, a heavy metal base covered with metal pins. It is available in various sizes and shapes. Stems pushed down onto these points are held securely; and the holder itself is held in place on the bottom of the vase with floral clay (Plasticine). In silver vases, melted paraffin is preferred, since it will not tarnish the container.

A pair of sharp shears, transparent tape, rubber bands and wire complete the customary equipment of the floral decorator. With these, stems or branches can be held together in places concealed from view. In fact, hidden wire serves to strengthen or shape stems.

Tips for Beginners

Although far from being strict rules, the following simple tips are useful to the beginner.

(1) Use tall sprays of small flowers and closed buds to furnish long lines. They also serve for filler material.

(2) For weight and stability, place large flowers and dark materials low in the composition.

(3) Do not place one bloom directly above the other. Except in modern symmetrical compositions, avoid geometrical precision.

(4) For harmony, always use colors in masses or clusters, never scattered thoughtlessly.

(5) Always take care to build three sides of your arrangement, since the viewer can see the front and the two sides.

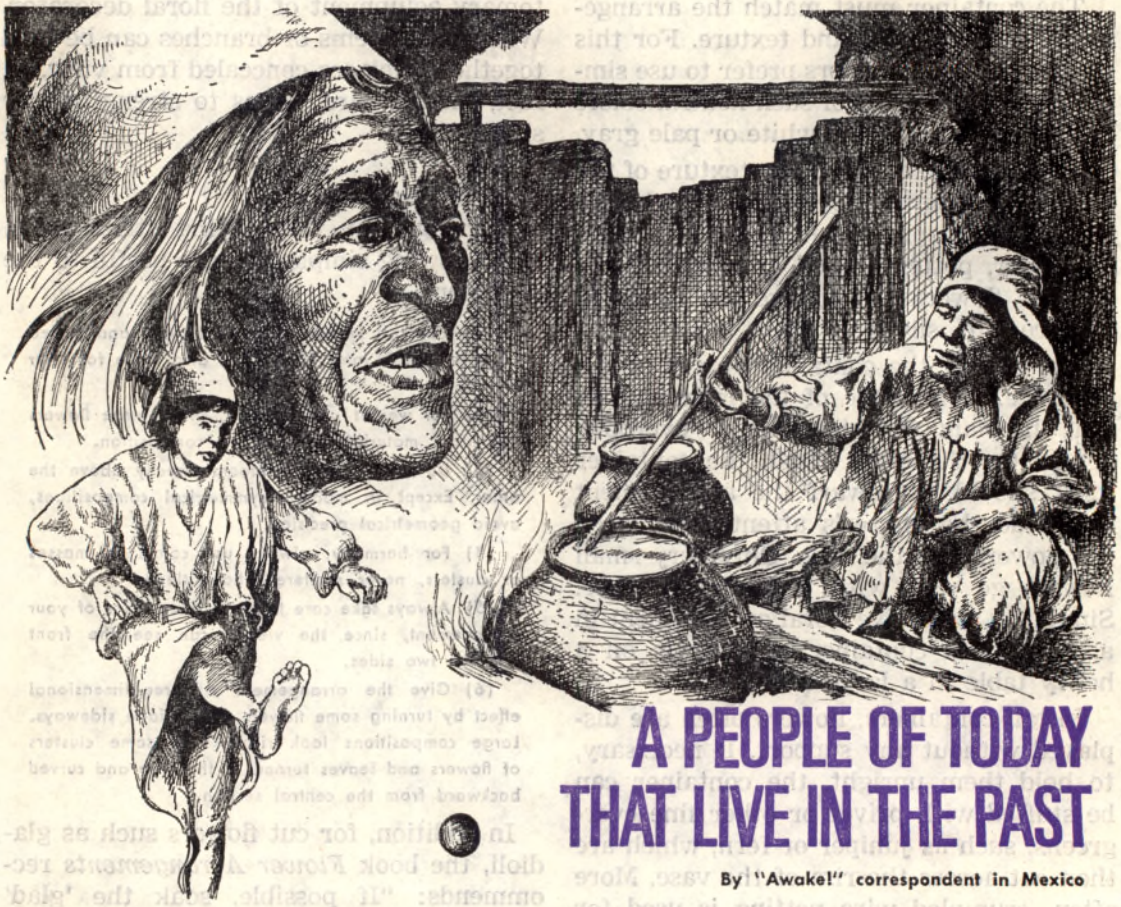
(6) Give the arrangement a three-dimensional effect by turning some flowers and foliage sideways. Large compositions look richer with some clusters of flowers and leaves turned to the side and curved backward from the central section.

In addition, for cut flowers such as gladioli, the book *Flower Arrangements* recommends: "If possible, soak the 'glad' stems for at least an hour in a tall pitcher full of water, adding two or three ice cubes. This helps your flowers live longer.

"A primary rule in flower arranging is: have the courage to cut stems. . . . To do the very simplest kind of a flower arrangement, step A is to place all stems in a row on your desk or work table. Grade the flowers: keep thin buds and smallest blossoms for the taller stems, more open flow-

ers next, and save the very largest bloom for the shortest stem."

So, why not try your hand? Follow these suggestions, or diagrams published in literature on flower arranging. Begin with a simple arrangement. You will derive much pleasure from the immediate results. And soon you may improve your skill so much that your flower arranging will be an art.



A PEOPLE OF TODAY THAT LIVE IN THE PAST

By "Awake!" correspondent in Mexico

MEXICO holds many a surprise for the visitor. Among the interesting people that one can observe in this country are the Tarahumara Indians. Have you ever heard of them?

This tribe numbers about 70,000. They dwell in the mountainous region of Chihuahua State, toward the northwest of Mexico. Life for the Tarahumaras has continued unchanged for centuries.

Their dress and grooming are quite simple. The men wear loincloths. The women put on a number of skirts, one atop the other, as well as bright-colored shirts and necklaces. Both men and women cut their thick, straight black hair at shoulder length.

Some of these natives construct simple wooden houses. Those living in ravines and

lowlands, however, may prefer caves or other rock shelters for their dwellings.

Living Off the Land

Tarahumaras have an unusual hunting procedure. They will track deer by *running* after them, even for several days. When the animals become exhausted, it is easy to make the kill. They also hunt for squirrels, lizards and small frogs. These Indians have amazing endurance when it comes to running. In this regard we read in the *National Geographic* magazine:

> "Possessed of fantastic stamina, Tarahumara Indians compete in barefoot races that often continue for 48 hours. As they run, they kick wooden balls which are as large as oranges when the race begins but wear down to half that size."

Some Tarahumaras cultivate the land, growing corn, potatoes, beans, and so forth. But their type of agriculture calls for a nomadic way of life. The soil is thin, and erosion is intense due to heavy rains and strong winds. When the soil disappears in one area, families must move on to new locations.

The Family and the Community

Tarahumaras have peculiar viewpoints on marriage and morals. If two young persons develop an attraction for each other, a celebration is arranged. In attendance are the couple, their parents and the *siríame,* or local governor, who effects the marriage. Very rarely do Tarahumaras go to a city to legalize their marriage in a civil office.

Couples united in this way live together as long as they desire. If individuals no longer wish to remain with their mates, they split up. When meeting another person of the opposite sex that is appealing, they can unite again. As to sexual offenses, if a Tarahumaran violates a girl, he must pay a dowry to the girl's father. In such a case the father sets the price.

This tribe recognizes the authority of Mexico's federal and state governments. In addition to these, however, they have their own local administration, one that combines both pre-Hispanic and Colonial Jesuit characteristics.

Each town has an assembly composed of residents of the town. The *siríame* presides over this gathering, and is assisted by lesser authorities. The assembly meets each Sunday to hear and resolve problems of the community. As a symbol of authority, the *siríame* bears a sacred staff known as a *disora.*

Little Desire for Progress

Both the government of Mexico and the Jesuits have arranged educational courses for the Tarahumaras, providing basic training in arts and crafts. Some natives have taken advantage of these provisions. A few have gone on to become schoolteachers. Others have started businesses in cities where they can sell their own handmade products.

But, for the most part, Tarahumaras show no desire to modernize their primitive way of life. They prefer to live in the past. What is the reason for this?

Generally speaking, the Tarahumaran is a conformist. He is content to carry on traditions handed down for many generations. Traditional activities include making *guares* (baskets made from palm), woollen blankets, and earthenware bowls and pots.

Also working against progress is the fact that some of these Indians go down into cities where people pity them and give them alms. Persons who get by in such a way have little desire to look for work.

A Mixture of Religious Beliefs

The religious beliefs of the Tarahumaras are a mixture of Roman Catholicism and

traditional Indian teachings. Long ago the Spanish clergy influenced them to believe in Jesus Christ, but only in a superficial way. They will readily change their professed religion, if it seems advantageous to do so. Where the Catholic Church provides means of livelihood, they agree with Catholicism. But if a segment of Protestantism offers goods such as food and clothing, they go along with Protestant teachings.

The Tarahumaras believe in immortality of the soul and conduct public worship of both the sun and the cross in connection with certain festivities. Also, occult practices are common. There are herb doctors and "healers" who impose and remove curses. As their pay, these healers demand a pot of *tesgüino,* a potent type of corn liquor. At times these individuals resort to trickery. Before visiting a sick person, some put a stone in their mouth. After examining the sick individual, they pretend to suck out impurities from the patient's wrists. Then they remove the stone from their mouth, claiming that it came from the sick person's body, and that he is therefore free from his illness. In spite of such fraudulent tactics, these healers have large followings of believers.

Response to Cultural Work

Happily, a number of these natives have responded to the cultural work done by persons who distribute the *Awake!* magazine. This work began for the Tarahumaras in 1956, when a "pioneer" (one who does such work full time) came to the area where they reside. He began placing literature with them, making return visits and conducting studies in the homes of persons showing interest.

By 1958 meetings had begun in that area and three years later two Tarahumaras were immersed. By 1965 the number of Tarahumaras doing this cultural work in this little zone had grown to 14, a figure that has doubled since then. And, at a recent local convention, attendance at the public talk on Sunday was 94. Showing the effect of the cultural education are comments of a traveling overseer:

> "Those who now do cultural work in Agua Caliente, Chihuahua, were formerly the terror of that region. They were arrogant and would regularly cause trouble after excessive drinking of *tesgüino.* To keep the *chabochis* (white men) from coming to the locations where they did their drinking, they would put at the entrance an herb called *frijolillo.* When dried, this herb gives off a hissing sound like that of a snake due to the vibration of tiny beans in its pods. This had the effect of scaring away the *chabochis.*
>
> "Now these individuals are known throughout the region for being peaceable, hardworking persons. No more do they get drunk or engage in violence. Instead, they have won praise for the best conduct in their town and are known throughout the entire region as excellent Christians."

Among one group of such Christians in Chihuahua are 10 men of pure Tarahumaran stock. All of them learned to read and write through cultural programs. This is true also for other Tarahumaras in nearby groups. Earnest effort has enabled progressive-minded natives to read for themselves, and also to their neighbors, the wonderful promises of God contained in the Scriptures.

The Tarahumaras are indeed an interesting people. Though very much alive and active in the 1970's, they follow a way of life reminiscent of the distant past.

Is It a Sin to Raise or Lower a Flag?

A FIRE fighter in an Ohio (U.S.A.) city was ordered by his superior officer to raise and lower a flag over the fire station. He respectfully declined. Because of this he was suspended from his duties for one day. On another occasion he again declined, drawing a similar one-day suspension. A third time he was ordered to raise and lower the flag, and, after once more refusing, he was dismissed from the fire department.

The fire fighter interpreted the raising or lowering of a flag as a religious act that violated his conscience. To him it conflicted with Bible commands related to idolatry, such as the injunction to "flee from idolatry" (1 Cor. 10:14) and the prohibition against making or serving images.—Ex. 20:4, 5.

The case was taken to the local Court of Common Pleas, but the court ruled in favor of the city. Then the case was appealed to a higher court, to the Court of Appeals of Ohio. The issue before this appeals court was whether the fire fighter had been deprived of his freedom of religion as guaranteed by the United States Constitution.

The Ohio Court of Appeals reversed the judgment of the lower court. It ordered the Civil Service Commission of the city to restore the man to his position as a fire fighter. In its final opinion, the court said regarding the raising and the lowering of a flag: "We find that such action is a ceremony in that the standards established by Congress to unify patriotic customs require that the flag be raised briskly, and lowered ceremoniously . . . Its raising or lowering must be done with reverence and respect."

Further, the court stated: "We cannot doubt the sincerity of plaintiff's belief, nor the reasonableness of that belief, that partaking in that ritual, or ceremony is offensive to God." The court added: "Freedom of religious conscience, belief, and action is only susceptible of restriction to prevent grave and immediate danger to interests which the state may lawfully protect . . . We have no such showing here."

In a somewhat similar matter, the California Board of Education approved a ruling that permits students to refuse participation in the flag salute without being censured. They can remain silent during the pledge of allegiance. Of course, this matter was really decided long ago, in 1943, by the United States Supreme Court when it ruled against the compulsory flag salute. The California ruling merely confirms the validity of that decision.

Where the flag salute and the oath are concerned, there is a very definite ceremony or ritual involved, directly relating to Exodus 20:4, 5 and 1 Corinthians 10:14, as well as other Bible texts. That is why Jehovah's Witnesses do not take part in flag ceremonies.

However, in the Ohio case the fire fighter was not required to participate directly in repeating any oath while raising or lowering the flag. Yet he viewed it as a sin, or a violation of his own conscience. And the court protected his right to decline as long as he did not threaten the life, property or welfare of anyone else.

Others, though, may just as conscientiously feel that

they can perform the act of raising or lowering a flag when it does not involve any reverential religious ceremony, ritual, salute or oath. For example, the janitor of a public building may have a number of duties to perform each day, including the raising or lowering of a flag. Although he may be a Bible-based Christian, he may feel that since no ritual of any kind is involved, then he can perform this task.

Another Christian may not perform this duty because his conscience is more sensitive in a matter that is not commented upon directly in the Holy Scriptures. And the mere raising or lowering of a flag is not specifically mentioned in the Scriptures. If a person feels that doing so would go against his conscience since the flag is connected at other times with definite rituals or ceremonies, then it would be wrong for him to violate his conscience in such a matter. But it would not be wrong for another Christian to perform the same act if there is no ritual involved, and it does not offend his conscience, since God's law does not specifically prohibit it.

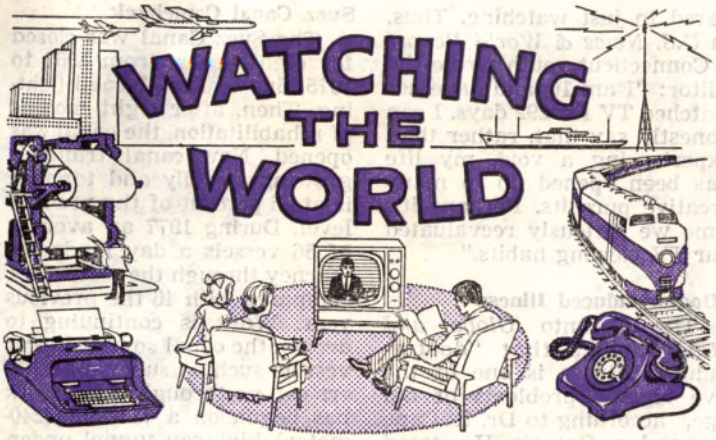
This understanding is consistent with the Bible's view regarding individual conscience. For example, in the first century idolatry was common. As part of some idolatrous ceremonies meat was offered to idols. Persons eating such meat *at these ceremonies* were sharing in idolatrous worship. Later, some of these persons became Christians and abandoned their idolatry. But remembering their former false worship, they had an aversion to eating such meat from the idol temple when it was sold later in the public meat market.

Yet, there was nothing wrong with the meat. It never really belonged to the idol, since a lifeless idol had no power to receive or possess the meat. In actuality, the meat remained under the ownership of God, who 'owns the earth and all that is in it.' (1 Cor. 10:26) Thus, another Christian whose conscience was not bothered by the previous use of the meat could purchase it and eat it without sinning against his conscience, since there was no direct religious act performed when buying or consuming the meat.

So both those who ate such meat and those who refused to eat it were following Christ and serving God. Both were approved by God, since their courses of action were all within the boundaries of his laws and principles.

Of course, if a Christian's eating meat previously sacrificed to idols would disturb the conscience of a more sensitive person, then he should not eat the meat in the presence of that one.—1 Cor. 10:28.

Similarly, the question as to whether it is a sin to raise or lower a flag must be answered according to the circumstances—whether any reverential ceremony is involved, and in harmony with the conscience of the individual Christian. The conscience of one may impel him to ask his superiors to have someone else perform the task. But another may feel that if there is no actual ritual involved, then he can raise and lower a flag much as he would perform other daily duties such as opening windows or unlocking doors. And each, by preserving a completely clear conscience, will be in a position to say as did the apostle Paul: "I have behaved before God with a perfectly clear conscience down to this day."—Acts 23:1.



Arms Race "Alarming"

◈ Just a few years ago, the nations were spending about $200 billion a year on armaments. But in 1976 this reached $334 billion, according to the Stockholm International Peace Research Institute. Yet, funds earmarked for development aid to poorer countries were only $25 billion. James Reston of the New York *Times* stated: "Last year, the nations of the world spent 60 times as much equipping each soldier as we spent on educating each child."

In 1977, experts from 13 countries reported to the United Nations that the arms race among major industrial nations has now accelerated to "an alarming tempo." Spending reached some $350 billion during the year. Also, the magazine *To the Point International* said: "There are now a total of 1,386 military satellites for guiding missiles, warheads and other weapon systems accurately to their targets circling the globe; five countries conducted a total of 40 nuclear explosions in 1976."

Caring for the Heart

◈ Each year thousands undergo surgery to replace clogged arteries that are unable to carry enough oxygenated blood to the heart. But an American engineer, Nathan Pritikin, claims that an alternative method of heart care would eliminate the need for most of these operations. He claims that a diet without fat, salt and table sugar, along with a daily exercise program, can reverse the symptoms and perhaps even the underlying cause of advanced heart disease. In tests conducted under the care of a heart specialist, patients were said to be "remarkably improved clinically" after four months of Pritikin's program. Although their heart disease remained, they had dramatically increased their activity, lost weight and lowered cholesterol levels and blood pressure. Their reliance on drugs to control their heart disease was practically eliminated. Of course, more time needs to pass before any definite conclusions can be drawn.

Africa Hard Hit

◈ African nations have suffered most from the economic recession of the last few years. Though some Western countries are in the process of recovery, many African nations are not. Of the world's 29 poorest countries, 18 are in Africa. More than 60 million Africans are unemployed out of a total labor force of 140 million, according to Director General Francis Blanchard of the International Labor Organization. He said that 30 percent of the total population were destitute, and an additional 30 percent were seriously poor—which is more than two thirds of the population. Blanchard also said that Africa faced a "desperate shortage of resources," which worked against any substantial progress.

How Fast Can You Read?

◈ A group of educators generally agreed that reading speed cannot be increased to many thousands of words a minute without decreasing comprehension. Most said that for light "recreational" material, many can attain a speed of from 500 to 1,000 words a minute with good comprehension. But when the material is more difficult, and there is more to remember, then a good reading rate may be between 300 and 400 words a minute. The educators said that the faster one reads, the more he must "skim," that is, omit words or phrases. And, as one reading expert stated, "the less you see, the less you comprehend."

Preventing Water Burns

◈ Reports of scalding due to hot tap water are not uncommon. A medical center in San Antonio, Texas, has treated 50 such cases of scalding in the past few years. The center found that 37 of the cases were infants under three years old. They were burned when they turned on the hot water while playing with the tap. Most of the older victims were burned in showers. Sixteen of the patients died. A check of private homes and hotels found that a large number of them had water hot enough to be dangerous. It was recommended that the temperature of the water be reduced, keeping it below 130 degrees Fahrenheit (55 degrees Celsius). Lowering the temperature is not only a safety measure, but also represents a considerable saving in fuel costs.

Record Man-powered Flight

◈ How far can a heavier-than-air craft be flown when it is powered only by human strength? Not very far. In California, a new world distance record in such flight was officially set—one and a third miles. The craft weighed 70 pounds (32 kilograms) empty and had a wingspan of 96 feet (30 meters). It was powered by a rear-mounted propeller 146 inches (nearly 4 meters) in diameter, driven by a chain from bicycle pedals powered by a human. The record flight lasted seven minutes and 27½ seconds.

Catholic Birth-Control Patterns

◈ In the past 10 years, there has been a huge change in attitude on the part of married Roman Catholic women in the United States toward their Church's view on birth control. By 1975, according to a Princeton University study, 94 percent of Catholic women were using methods of birth control forbidden by their Church. There was little difference in the percent among Catholics practicing birth control when compared to non-Catholics. Researchers found that rejection of the Church's prohibition against artificial birth control was just as complete among regular churchgoers as among those Catholics not regularly attending.

Siberia Subway

◈ Siberia's first subway system will be located in the Soviet Union's seventh largest city, Novosibirsk. Work on plans for the first part of the subway is in full swing. That first segment will be about eight miles (13 kilometers) long, having 12 underground stations.

No TV Void

◈ While television can provide entertainment and information, too much watching can stunt creativity. There is no substitute for doing, compared to just watching. Thus, in *U.S. News & World Report* a Connecticut youth wrote the editor: "I am 16, and have not watched TV for 292 days. I can honestly say that, rather than experiencing a void, my life has been opened up to many creative pursuits. Perhaps it's time we seriously reevaluated our TV viewing habits."

"Doctor-induced Illness"

◈ The Toronto *Globe and Mail* reports that "doctor-induced illness is one of the five biggest problems of old age," according to Dr. R. Cape of London, Ontario. He stated that doctors can make old people ill by prescribing too many drugs, or drugs in doses that are too strong for an aged body to handle. The other four major problems are: mental confusion, incontinence, falling and the inability of the body to get back to normal after some slight upset such as a cold. Recommended as aids for elderly people are exercise, fresh air, good food ("but not too much"), an interest in life and a stake in the community.

More Mental Problems

◈ The U.S. President's Commission on Mental Health reported that "between 30 and 32 million Americans need some kind of mental health care at any one time," in addition to the six million people already classified as mentally retarded. Others who helped to compile the report say that the true figure may be more like 40 million. The director of the National Institute of Mental Health said that 32 million Americans actually received treatment for mental problems last year. It was reported that people in Europe have about the same proportion of mental disorders. A mental disorder was considered one that is severe enough to impair a person's life, one that can be diagnosed by doctors.

Suez Canal Comeback

◈ The Suez Canal was closed for eight years, from 1967 to 1975, due to Arab-Israeli fighting. Then, after eight months of rehabilitation, the canal was opened. Now canal traffic is growing steadily and tonnage is at 85 percent of the pre-1967 level. During 1977 an average of 56 vessels a day made the journey through the waterway, compared with 46 the previous year. Work is continuing to deepen the canal so that larger vessels such as super oil tankers can go through. Also, work has begun on a 784-foot (240-meter) highway tunnel underneath the canal, linking the Nile Delta with the Sinai Peninsula. It will be the first land link across the canal since the 1967 fighting.

Amazing Sense of Smell

◈ Bloodhounds are used to track down some criminals. How keen is their sense of smell? *Science Digest* reports that in a New York City test, a bloodhound followed a trail laid down by a detective through four softball games that were in progress, and across a large park area where 55,000 persons had attended a concert the previous evening. Yet, the dog was able to sort out the one trail and stay with it.

Farm Exodus Continues

◈ It was thought that recent trends, particularly among younger people, back to rural areas to live a more "natural" life would spark an increase in farm population in the United States. But that has not happened. Those moving away from farms continue to exceed the number moving into rural areas. Forty years ago, one out of every four persons lived on a farm. Now it is only one in 25. Today, there are only 2,800,000 farms of 10 acres or more, a decrease of 4,000,000 since 1935.

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