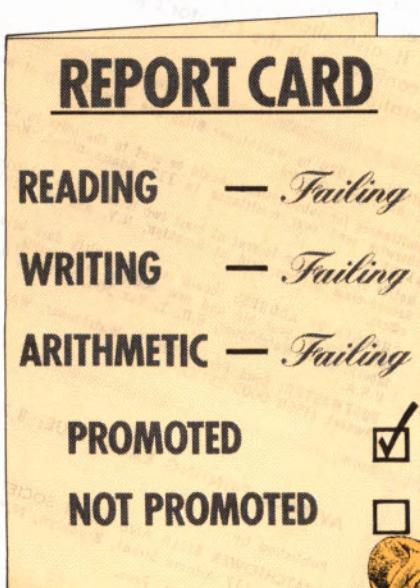


Awake!

NOVEMBER 22, 1979

WHY **SCHOOLS** ARE **FAILING**



**Things Parents
Can Do—Page 27**

FEATURE ARTICLES

If report cards were issued to public schools, many would receive failing grades. Some high-school graduates can't read. Some teachers can't teach. Some who can are quitting. Who is to blame? Any remedies? What parents can do

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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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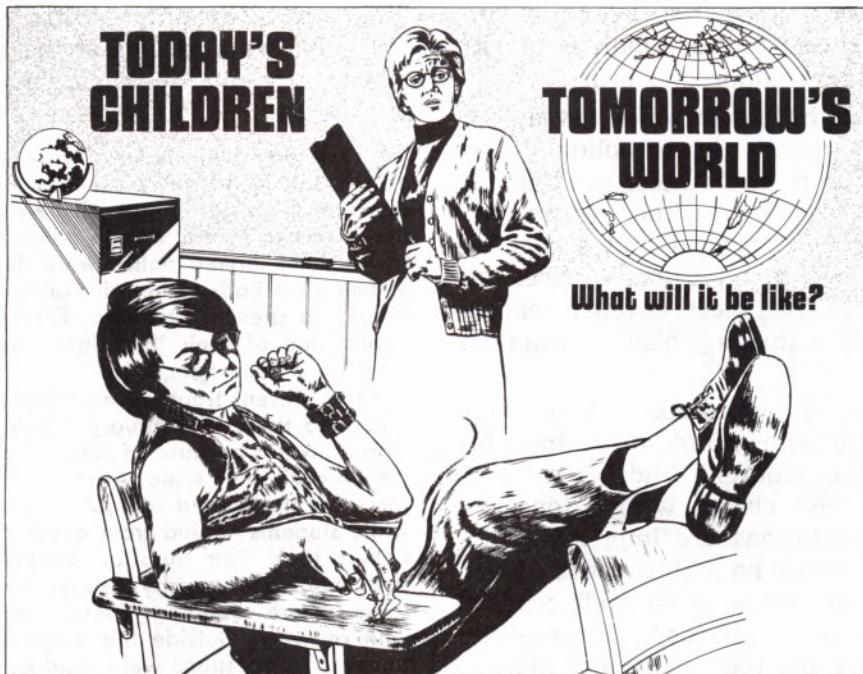
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SCHOOLCHILDREN ADMITTED STRICTLY ONE AT A TIME." This sign was on the door of a sweetshop in *England*. The children stole so much that the shopkeeper had to watch each one. The press release continued:

"From the surrounding schools, which are entirely typical, there emerges each day one of the most loutish, selfish and coarse breed of children ever produced, pushing and shoving their way on to buses, shouting obscenities across the road, and regarding pilfering as praiseworthy if they can get away with it."

A teacher at one of England's progressive "open classrooms" schools denounced the headmaster, saying:

"You have substituted a free-for-all atmosphere of total self-indulgence, self-pleasing do-what-you-want-for-the-moment. Chaos and anarchy are in possession. Discipline is frowned on as old-fashioned. Children are being seduced to behave in ways which are detrimental to them, both in their progress in learning anything and in producing antisocial behaviour. They are growing up ignorant, selfish, rude . . . lazy, effete."

Those reports date back three and four years. A report this year shows no change. Under the heading "Britain's Battered Schools," it says the lack of academic achievements is frightening. Students "have not acquired a minimum acceptable standard in the fundamental skills of reading, writing, arithmetic, and communication." It calls the progressive method with its clutter of 'trendy' subjects an "educational junkyard."

In *Canada* the story of the schools is told in newspaper headlines: "Student reading skills are declining." "Nobody fails now, high school diplomas called meaningless." "If you want them to like you, pass them." "Teachers tell of low morale, students' lack of values." "School vandals and violence stymie board."

Reports from *Australia*: Discipline is a problem. Because of it teachers are leaving the profession. Incoming teachers are of poorer quality. Permissiveness and emphasis on individual rights, regardless of

society's needs, come first. Peer pressure, violent at times, forces hundreds of students to accept liquor and drugs.

Schools in the *Soviet Union* reveal partiality. The quality of schooling differs greatly—poor in the rurals, good in the cities. But everywhere the system produces cynics: "A typical high-school kid doesn't believe in anything." Bribes get students into the most coveted schools, and there is a thriving black market for books.

China seems remarkable. Visitors are impressed by the polite, disciplined behavior of the children. Students welcome visitors to their classes with a song and a dance. Recitations are impressive. Apparently there are no problems with drugs. However, the tours seem well planned and are carefully guarded. One reporter strayed from the tour route and found a gathering of children in the bathroom. One boy approached boldly, stood in front of him and urinated. All the others faced him and did likewise. After this, of the tours he concluded that "certain things are designed specifically for display."

In *Japan* teachers complain that scholastic achievement is low. Violence and vandalism are widespread. One example: Thirty students, most of them second graders, five of them girls, beat six teachers with wooden bars and bamboo poles and smashed school windows and glass doors. But the outstanding element in Japanese schools is examinations. Public schools require students to take stiff ones to enter high schools and universities—and the quality school you get into depends on your grade. To get into quality private schools, examinations start with entering kindergarten. The examination to enter university takes days, is called "exam hell," and results in several suicides every spring.

The most amazing university examinations occur in *India*. Indian students claim

it is their birthright to copy and cheat. Last July, examinations at the University of Meerut resulted in riots. One press release said:

"Yesterday two students were killed and 40—including 30 policemen—injured as students and police fought pitched battles in the streets of Meerut and in adjacent college towns when armed police were deployed in examination halls to help invigilators [supervisors] to prevent cheating. Enraged at the deprivation of their 'birthright' the students went on a rampage."

"The present troubled examinations are a sequel to those in February which were declared invalid because of copying and cheating on a gigantic scale. At that time invigilators were threatened with knives and daggers while students copied from books and notes. Others took their question papers and answer books to nearby houses and restaurants where obliging friends were ready with answers. Outside the examination hall answers to questions were read out over the public address system at dictation speed."

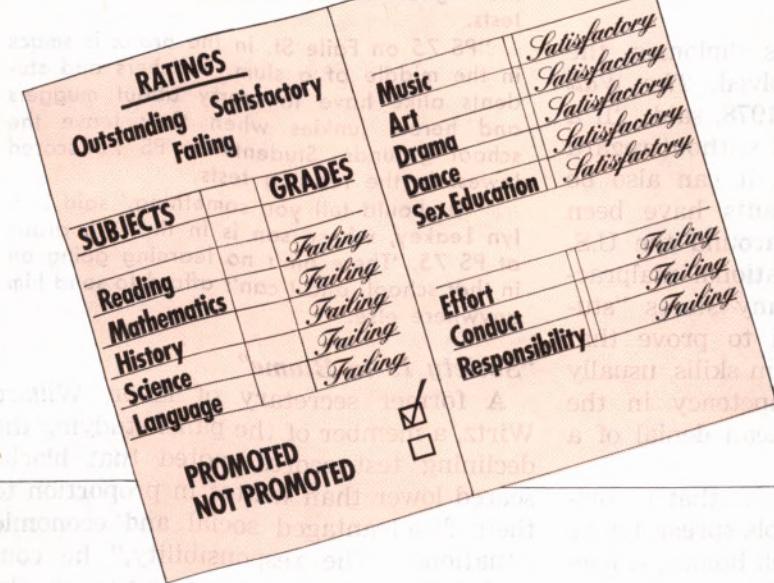
As a result, degrees from most universities are worthless, ignored by employers and institutions of higher learning. Literally illiterate graduates swell the ranks of the unemployed.

A survey in some 20 countries, involving 9,700 schools and 250,000 students, revealed a tremendous difference in achievement between students in industrial nations and those in *less developed lands*. As bad as reading and writing and arithmetic are in the industrial nations, they are worse in the less developed lands. In the latter places illiteracy is high and half the children who enter school drop out by the third year.

With many of today's children as they are, what kind of adults will they become? Run by such adults, what will tomorrow's world be like?

Think about that as you read the following—a report about what is going on in the schools of one of the world's most prominent nations.

THE SCHOOLS ARE FAILING



"I WAS cheated!" exclaims a high-school graduate who did not realize it until he had to drop out of college after two years. "What went wrong? Why wasn't I prepared?" he asks, and continues:

"I went to high school during the progressive era, when educational philosophers were talking about 'joyous classrooms,' and we were all demanding courses that were 'relevant' (whatever that meant). The problem, as I look back now, was that the educators all gave in to us too easily.... They tried to give us the 'joy' and the 'relevance' we were demanding and what we really needed was sentence structure and often a swift boot in the butt."

Another student's complaint was reported by a columnist:

"I am in the 10th grade and can't spell worth a darn. The high school I attend is supposed to be one of the best in the state. I haven't had a course in spelling since Grade Five. Every year our home room teacher asks us to list the subjects we would like

In the United States, society fails its schools. The schools fail their students. The students fail themselves. Their parents aren't getting straight A's either

to see offered. I have put down 'spelling' and 'grammar' five years in a row. So what do I get? Crazy movies

which are supposed to be 'educational.'"

The nation spends more than ever on its grammar and high schools—some \$75,000,000,000 a year—and those schools are failing miserably. College entrance examination scores have dropped steadily for the last 15 years.

Grades Inflated and Promotions Automatic

Experts have investigated, and report: Progressive teaching methods and meaningless elective courses have crowded out the basics—reading, writing and mathematics. Not only is Johnny unable to read, but neither can he write, nor add, nor subtract. English courses have been replaced by science fiction and films. The writing of essays is out of vogue. Textbooks are less demanding—more pictures, wider margins, simpler words and shorter sentences. Half the homework of former

days is required. Absenteeism, as high as 25 percent, is condoned. Grades are inflated. Promotion to the next grade is automatic, regardless of merit. Diplomas signify 12 years of attendance, not scholastic achievement.

Because of meaningless diplomas, the courts have become involved. *The Wall Street Journal* of May 9, 1978, said: "If a school graduates a student without regard for what he has learned, it can also be sued. Half a dozen lawsuits have been brought against schools around the U.S. essentially charging educational malpractice." As a result, in many states "students are being required to prove that they have learned minimum skills, usually by passing tests of competency in the three R's. Failure may mean denial of a high-school diploma."

However, the same experts that reported the failings of the schools spread blame beyond the campus. Broken homes, single-parent homes, homes where both parents work, permissive parents—from such homes children come to schools disturbed and undisciplined, difficult to teach.

Television makes lazy minds, and "by age 16, most children have spent between 10,000 and 15,000 hours watching television, more time than they have spent in school." One of the experts said: "Television has become surrogate parent, substitute teacher."

Another educator spoke bluntly: "If you feel there's a serious problem with literacy and you want children to be more literate, I suggest you turn off the television and radio, unplug the telephones and dictaphones, provide parents who are voracious readers and prolific writers and are reasonably affluent."

That last quote introduces another factor—economics. "Where You Live Equals How You'll Do," headlined the New York *Daily News*, March 8, 1979, and this report followed:

"PS [Public School] 131 in Jamaica Estates, Queens, is surrounded by quiet streets, expensive, one-family brick homes, and people who smile and wave to each other when they pass on the street. Its students achieved the highest scores in the citywide reading tests.

"PS 75 on Faile St. in the Bronx is smack in the middle of a slum. Teachers and students alike have to worry about muggers and heroin junkies when they leave the school grounds. Students at PS 75 scored lowest in the reading tests.

"'It should tell you something,' said Evelyn Leakey, whose son is in the fifth grade at PS 75. 'There ain't no learning going on in that school, and I can't afford to send him anywhere else.'"

Society Is to Blame

A former secretary of labor, Willard Wirtz, a member of the panel studying the declining test scores, noted that blacks scored lower than whites in proportion to their disadvantaged social and economic situations. "The responsibility," he concluded, "cannot be centered on the schools. The entire society is to blame."

Graduates who lack basic educational skills are handicapped in the job market. Businessmen conducting a seminar for teachers made these points:

"Let's face it, if they can't do the work, we can't keep them."

"Out of one group of 180 applicants that I reviewed, approximately 20 percent had to be thrown out because I couldn't read the writing."

"About 80 percent of personnel fired lose their jobs because of habitual absence or tardiness."

"We try our best not to be influenced by appearances in job applicants, but if you could see some of the people we see, you'd understand that you can't help but be influenced."

Business spends \$40,000,000,000 a year trying to make up for the schools' failures. One company official complained:

"We're doing what the educators ought to be doing. College graduates can't write

reports; high-school graduates can't read, spell or write; typists can't type more than 30 words a minute—and they all have poor vocabularies. Twelve years is a long time to spend in school and not come away with the basics."

It is a sad commentary that a nation that has split the atom, sent men to the moon

and back, and sent a spacecraft to Jupiter that returns pictures to earth, has not yet taught all its adults how to fill out job applications or to calculate change at a supermarket check-out counter. Surely there must be a remedy!

But what is it?

TEACHERS UNDER ATTACK



Some deserve failing grades, others suffer as scapegoats. All are exposed to severe occupational hazards.

"DICK and Jane can't read, write or do arithmetic because their teachers can't." That's the sweeping charge raised this year by *The Wall Street Journal*. In support it cited examples. In New Orleans picketing teachers carried a sign

that read, "We are striking for decent wages." In Virginia a printed study guide for third graders asks, "What did the sculpture told the archologists?" A teacher in Alabama wrote a parent, "Scott want pass in his assignment at all, he had a poem to learn and he fell to do it." Another source tells of a girl coming home in tears. In a spelling test she wrote "blossom," but her teacher corrected it to read "bolosom."

The incompetence, although not involving all the teachers, is nation wide. The result in many states is pressure to force new teachers to submit to various tests of competency. Some teacher-union officials protest that teachers are being made scapegoats for the nationwide decline of test scores. There is validity to this protest. There are several factors behind the failure of many of the public schools, and there are many teachers who are competent professionals. However, there are many who are not; tests to keep them out are legitimate.

However, these tests are not much, even in the basic skills. "Mere child's play," is how the *New York Post* rated them. "The written English test for would-be city teachers is so easy to pass that high school

students did almost as well as adults applying for the jobs, according to a research study."

Occupational Hazards

Many industrial workers are exposed to cancer-causing chemicals that bring death 20 or 30 years later. Many teachers are exposed to dangers that bring immediate injury and sometimes death. The National Institute of Education estimates that, every month, 5,200 junior and senior high-school teachers are physically attacked and 6,000 are robbed by force. Every month, some 282,000 of their students are assaulted; monthly, 112,000 are robbed. Many of the violent acts are by nonstudent intruders.

U.S. News & World Report, May 21,

In Future Issues

- **How Christian Is the Christmas Spirit?**
- **Disco—Is There a Reason to Beware?**
- **The Energy Shortage—What Can We Do?**

1979, highlighted some of the violence, as follows:

"While her second-grade class watched, a California teacher was forced by an intruder to undress at gunpoint, then was sexually assaulted. When he left, the assailant took the woman's clothes and purse. The children covered her with their sweaters and jackets.

"A New Orleans teacher watched while two boys threw a smaller child off a second-floor balcony. She was afraid to interfere because she feared the boys might then attack her.

"High-school girls in Los Angeles, angry over low grades, tossed lighted matches at

their teacher, setting her hair on fire. The teacher subsequently suffered an emotional collapse.

"In Alexandria, Va., student vandals slashed tires on a police car in a high-school parking lot, painted drug graffiti on library walls, ripped the front gates from the school, smashed windows, ruined a carpet with glue, detonated an explosive in a smoking area, snipped gaping holes in the school's chain-link fence, poured motor oil on a hallway and cut down the school flagpole with a pipe cutter and rammed the pole through a window in the principal's office. The school subsequently was closed after a devastating fire, believed to have been arson.

"In Austin, Tex., while 30 of his classmates watched, the 13-year-old son of former White House Press Secretary George Christian shot and killed his English teacher with a semi-automatic rifle. The teacher had given the boy a failing grade."

For years teachers have been discouraged from reporting violence. It makes the school look bad, which, in turn, makes the school administrators look bad. A member of the New Jersey task force for reducing such crimes said: "Administrators do intimidate their staffs into forgetting violent incidents." When students know that violence will bring police action, the violence decreases dramatically.

Exodus from the Battle Zone

Many teachers suffer from combat fatigue, with anxieties and neuroses similar to those that soldiers from war zones suffer. Some have started keeping tear-gas canisters, police whistles and even firearms in their desks. But most teachers tend to be passive, idealistic people, unsuited and unwilling to engage in such combat. So they opt to leave the field altogether. Resignations and early retirements in recent years have cut deeply into the numbers of experienced, dedicated teachers. It is the children's loss, the parents' loss, the schools' loss, society's loss. The blame for the loss is also theirs. All of them contribute to it.

SKILLS or FRILLS— which will it be?



On a cold night the man let the camel put its head in the tent. Then its neck. Then its shoulders. Soon the camel was in the tent and the man was out in the cold. So goes the fable. Similarly, as elective courses came into the school curriculum the three R's were crowded out.

THE basic skills are sadly lacking in today's schools and "showing enthusiasm for finger-painting is not an acceptable substitute," a former teacher declared. "The schools have taken on any number of activities, none of which we asked for," she said. "They're concerned about students' emotional needs, their social needs and last of all their educational needs. Discussions on family life, in most instances, are a euphemism for pornography in the classroom."

Consistent with that last charge, the June 19, 1979, New York Post carried this front-page headline: "X-Rated Sex Lessons for School Kids." Details followed:

"The Board of Education is preparing to overhaul its sex education program, discussing formerly taboo subjects as early as the fifth grade. Included in the new 'X-rated' material would be abortion, homosexuality, contraception and masturbation. . . . School officials feel earlier sex education is needed because of an alarming increase in unwanted teenage pregnancies and venereal disease. Officials are also proposing practical sex information in place of current material which stresses biological processes. For example, students as early as the fifth grade would discuss different methods of contraception."

Sound familiar? Was not the same argument used when sex education was first introduced into the schools, namely, it will reduce promiscuity and pregnancies? The only thing reduced, the record shows, is skill in reading, writing and arithmetic.

Black English

Years ago a poor black girl who complained in class that "Dis boy, he be boverin me" would be corrected by her teacher for slovenly English. But in recent years some call this "black English," and claim that it is an unwritten language and should be taught in school. Many black parents resisted, knowing their children must become fluent in standard English to compete in the job market.

Many school curriculums are loaded with these elective frills of little value but which make easy courses. Concerned teachers see this as a threat to academic skills. Typical is this statement by a teacher of social studies:

"The elective system which has evolved in many schools has a devastating effect on the learning habits of young students. Fifteen-year-olds have grown adept at shopping for

the most convenient, least demanding courses in the 'supermarket' curriculum.

Back to Basics!

Dismay over the erosion of academic standards, from grammar school to university, has turned the back-to-basics movement into one of the most powerful forces in American education. In 1977 a Gallup poll asked Americans whether they wanted more emphasis on the basics—reading, writing and arithmetic.

A big 83 percent said that they did. Private schools, including religious schools, have boomed because of the people's discontent with the poor performance of public schools. When the state's commissioner of education in Florida—which state has some 300 religious schools—was challenged as to why these schools were not forced to meet certain standards, he replied:

"We're not in a position to talk about somebody else's standards until we get the public schools in order. How do we have the nerve to call the kettle black?"

A survey was made of 34 high schools that had maintained or raised their scores on the college entrance examinations. They were scattered throughout the nation, from both affluent and blue-collar communities—a cross section socially and economically. These schools tended to have experienced teachers committed to high standards who did not subscribe to "such educational fads as the relaxed teaching environment typified by the so-called 'open classroom' concept." The high-scoring students "take more academic courses—



Some college graduates need a return to basics

mathematics, foreign languages, English and physical science—than do examinees in the schools with severe decreases." And the parents strongly support the teachers.

No Shortcut to Learning

Edward T. Hall taught English in America for 28 years. In 1974 he went to Botswana, Africa, to teach it. "I am teaching English," he said, "to boys and girls for whom it is a foreign language. They are doing better at it than my American students did." He disagrees with the permissive approach. In Botswana his program is rigid, with no room for frills.

"Old-fashioned? Repetitious? Boring?" he asks. Yes. "Boring drills are as necessary to the ability to speak and write correct English as piano scales are to the ability to play concertos." In America, teachers fear that they will stifle the student's "individuality" and "creativity" if they correct his English. He likens this to teaching netless tennis, and says: "We ought to stop playing tennis with the net down, and make students practice the language as they must practice sports or music."

Hall makes those points in his essay "Why Americans Can't Write," published in *Human Nature*, August 1978. He gives concrete examples to prove his position—excerpts from homework assignments by a senior of a New York City high school and a 15-year-old African student. This paragraph is from the New York high-school senior's report on the diary of the Jewish girl, Anne Frank:

"This is a idea of a tragedy the reason is that Anne Frank lived through a very hard live. Her family and Anne are German and Hitler doesn't like germans, so Hitler passed a law for germans to be captured and put to work and maybe even killed."

From 15-year-old African Mbuso's esay on prejudice:

"The truth of the matter is that in Southern Africa racial prejudice has been established by a history of several centuries. In Botswana we have just come out of that long history only in the last 10 years of independence. For centuries the white in Southern Africa has been regarding the African as a subject, an inferior and as being unable to think and act in a civilised and cultured manner."

Little wonder that one of New York city's disillusioned English teachers said, "The educational yardstick could well be a six-inch ruler." To make it a yardstick again, the joy of frills must give way to the learning of skills.

A TALE OF TWO TEACHERS —Why they stopped teaching

"I reached the point that I met the class each day with dread, and I knew it was time to leave."

FOR decades educators have attempted to find a solution to the problem, "Why Johnny can't read." Meanwhile Johnny, armed with "See Spot run. Run, Spot, run," embarks on the arduous task of conquering the printed page. Too often Johnny meets with early defeat at having a change of two or three teachers his first year. So, while Johnny is struggling with "See Spot run," educators are confronted with "See teacher run." And also, "Why can't teacher teach?"

What is happening in the educational field? Why are experienced, dedicated teachers leaving the profession for other careers? I, too, was asked that question, having left the teaching profession more than 10 years before retirement.



The Way It Was

I came from a family line of teachers. As a child playing school with my dolls I looked forward to the time when that row of rag dolls, teddy bears and china faces would come alive in my own classroom. Eventually they did, in the form of third-grade boys.

My teaching career began three months after the school year had begun, and I was the third teacher the class had had. This they triumphantly announced to me, one little voice piping up, "We chased the other two away." I ignored his comment and began engaging them in conversation about themselves, which immediately revolved around their pets at home. I listened as each pet's antics topped those of the previous one. Finally I asked one little boy, "When your dog jumps up on you and wants to play, but you don't want to play, what do you do?"

"Oh, I just push him away."

"But, what if you pushed him away and he never came back?"

"He wouldn't do that."

"Why not?"

"Because he likes me!"

In a voice just above a whisper, I said: "You know something? After listening to all of you, I just know I'm going to like you, too. I'm going to be just like that puppy. I'll let you push me away once in a while; but, because I like you, I won't let you chase me away. O.K.?"

In that moment I won them. That was in the early years following World War II.

As with all teachers, I had my favorite subjects to teach. Chief among them was "The Rise and Fall of World Powers" in sixth-grade social studies. I was amazed at how closely the textbook coincided with Bible history. Even the Teachers' Annotated Edition of our textbook *Living in the Old World* suggested having the pupils read the story of Nebuchadnezzar and his

dream from Daniel, chapter 2, concerning the rise and fall of world powers.

Those were happy days, and teaching was a joy. The time flew by and more than a decade had elapsed when I left the classroom to become a mother.

It was in the late sixties when I returned to the classroom. The joy that I once had in teaching should now be greater, as now my own child was in school. But things were different!

The Way It Is

The lack of respect on every level was appalling. Certainly there was little respect for teachers by students; but, the same attitude was reflected often by young teachers toward principals. Discipline that had once been so easily maintained was now almost unattainable. I gasped in sheer disbelief at expletives that rolled glibly off 11-year-old tongues. Soon I reached the point that I met the class each day with dread, and I knew it was time to leave.

I decided to interview former teachers and principals with whom I had taught. Also former students, many of whom were now parents of school-age children.

Discipline, or more correctly the lack of it, ranked highest among complaints. One teacher commented: "You feel you have a successful day if you can walk from one end of the hall to the other without getting involved in a skirmish."

Their assessments as to the reasons for discipline breakdown varied, but all cited "lack of respect for authority" as the chief reason. One principal observed: "Many children learn before entering school that their parents have no respect for government, and many do not believe in a God. So, to the child the parents represent the highest authority. When children have no respect for their parents, where does that leave us, the teachers?"

I asked a current teacher with more

than 25 years' experience how much emphasis can now be placed on moral values. She noted that the younger teachers did not view the matter as the older teachers do, and the experienced teachers have to tread lightly for fear of bordering on the religious aspect. One made the remark: "When prayer was taken out of the schools, we teachers didn't have a prayer."

Many feel that the lowering of the dress-code standards was the death knell of discipline in the schools. An interesting comment was: "Then they began to think in the same manner as they dressed. When we thought it could get no worse, then they began to dress in the same manner as they thought." Almost all teachers agreed that "the better the appearance, the better the student." One teacher mused: "When they slouch in their seats in dirty blue jeans, with the top nine buttons of their shirts unbuttoned, you get the impression that the faces staring back

at you reflect something short of eager anticipation for learning."

The Way It Will Be

While these comments are negative, this is not to say that all students are rebellious. I must say to those dear ones who are a joy to their teachers: "Because of you, there are still teachers. You are all victims of a changing world." A former student summarized: "In the early sixties the world was like a gyroscope that had lost its balance, and it has been reeling ever since. It makes you wonder whether it will ever regain its equilibrium."

I was reminded of my sixth-grade social studies teaching of the march of the world powers, their rise and fall down to the present one—which is certainly reeling. How grand it will be when this one, too, gives way to the one not mentioned in current history books—the kingdom of God under Christ Jesus—but which is highlighted in man's oldest textbook, the Bible. Then teaching again will be a joy.—D. B.

"It was time to stop trying to sweep back the tide of indifferent parents, apathetic teachers and neglected children."

WHEN I graduated from a southern high school in the early 50's, students still held their school principals and teachers in high esteem. There was maximum discipline in the classroom, and the very worst misdeed was committed by a few boys who sneaked behind a bush to smoke a cigarette. We were unaware of the problems that New York city already faced, until the movie "Rock Around the Clock" shocked us in disbelief. This kind of violence and disrespect could never happen here!

Over the years I continued to read of the growing rebellion of young people, and was so concerned that when my first child entered school, I decided to enter also as a teacher. There I could keep a finger on



the pulse and have a voice in the educational system.

During the six years that I taught, I learned that many disappointing changes had taken place. Principals were all but stripped of their authority. They had no control over their personnel. The Board of Education sent them the teachers and they had to accept them. If a teacher proved unqualified in any or every way, the principal could do nothing. Many of our "old-fashioned" dedicated teachers retired and their replacements were unbelievable. Many of these teachers spoke a very poor quality of English—street vernacular. Some openly carried on feuds with other teachers and manifested their narrow attitudes on ethnic and religious issues.

Part-Time Parents

Over 90 percent of the mothers of children in our school—with kindergarten through seventh grade—worked outside the home, and at least 50 percent of these were broken homes. Many parents dropped their children off at school one hour before the doors opened so that they could get to work on time.

I also discovered that my students never had the opportunity to converse with adults. Their parents talked *to* them but not *with* them. Apparently, I was the only adult who ever listened to them and praised them. When I could arrange conferences with the parents—the few who ever came to the school—I encouraged them to spend at least 30 minutes in the evenings listening to their children, asking them how their day went, what happened in school, and so on. Many of these children of working parents saw them only two hours in the evening on weekdays,

and some parents worked shifts that narrowed that time down to two days a week, the weekends.

Class Clowns from Broken Homes

I found that the class clowns or class disrupters were from broken homes and in the empty-house group. They just needed love and attention and did anything to get it. They were fiercely loyal to their parents and did a lot of bragging about them. I sensed that they were saying: "I want my parents to be what I am saying they are."

Another thought: In the home, rules made by the parents were never enforced. As a result, the school rules were taken lightly because the children thought the school would not enforce its rules either—which was often true.

I never attempted to teach in high school. There have been several shootings, stabbings, rapes and daily occurrences of stealing and drug-pushing in the school buildings. Security officers are necessary in most of the high schools. But the educators and school police look the other way as far as the constant use of marijuana goes. Some students, in fact many, stay "stoned" most of the school year.

When I became frustrated and exasperated each day at school, bringing home my desperations, I knew it was time to stop trying to sweep back the tide of indifferent parents, apathetic teachers and neglected children. I quit the teaching profession and used those hours to fulfill my duties and privileges with my own family. Now I have time to teach a more rewarding and satisfying subject—God's new system under Christ Jesus, the answer to all of mankind's problems.—S. F.



A Letter Revealing Youthful Integrity

Dear Brothers:

Enclosed you will find a small sum of money. This is a donation from my sons, Timmy and Michael, ages 12 and 5. I'm sure they would like you to have it to put it to use in whatever way you can to further the Kingdom work.

Timmy was an avid proclaimer of the Kingdom and had many hardships to overcome in so becoming. His mother and I were separated and very soon thereafter divorced when Timmy was seven and Michael only six months old. Their mother was bitterly opposed to my stand for God's kingdom. Timmy, however, had a keen appreciation for the truth and strong desire to please Jehovah.

Their mother was granted custody of Timmy and Michael, therefore they were exposed to all the worldly customs and holidays. But Timmy's early Bible training and faith in Jehovah enabled him to make a firm stand, even at his tender age, for God's kingdom. And although I was not able to be on hand to teach Michael daily, Timmy, in the face of opposition from his mother, helped Michael to see and to understand that the customs and holidays that he was encouraged to participate in were displeasing to Jehovah. And due to Timmy's persistence and Jehovah's spirit, little Michael made his stand for Jehovah as well.

In due time, thanks to Jehovah, I found a mate, Ruth, with a young daughter, Holly—both loyal servants of Jehovah. And through the outworking of Jehovah's spirit we were able to gain legal custody of Timmy and Michael. We spent many happy hours in service, at meetings and in wholesome recreation as a family. Timmy and Michael and their new sister, Holly, now nine, continued to progress spiritually; Timmy to the point of having dedicated his life to Jehovah, with plans of baptism at the "Living Hope" Convention this summer (1979). All three children have been a great encouragement to Ruth and me.

One evening as we were returning from a particularly upbuilding Christian meeting, having learned of the faithful endurance of our Christian brothers in Africa, Timmy remarked: "I wish I could have the opportunity to prove my faith in Jehovah like our brothers in Africa. I'd be faithful to the end." I assured Timmy, "Just continue faithful to Jehovah in the small things—your meeting attendance and participation, your field service activity, incidental witnessing at school and obedience to your parents and authorities, and should you ever be faced with such persecu-

tion, Jehovah will enable you to remain faithful."

And thanks to Jehovah all our children have remained faithful in these small things. Timmy's goal was to "increase my service time now, so I'll have a good record when I apply for Bethel service."

When on occasional weekend visits to his mother's home in Beaufort, a neighboring city, Timmy always made arrangements to attend the Christian meetings on Sunday mornings. Early on April 29, 1979, on just such a Sunday morning, I was walking alone in our garden before our meeting. I was noticing the deep impressions in the moist earth—little Michael's footprints where just two days earlier he had walked through the middle of the garden to bury an earthworm that had somehow made its way to his room. It brought the thought of Timmy and Michael to my mind. They would be awakening soon to attend the meeting in Beaufort. I was hoping that Timmy had made arrangements.

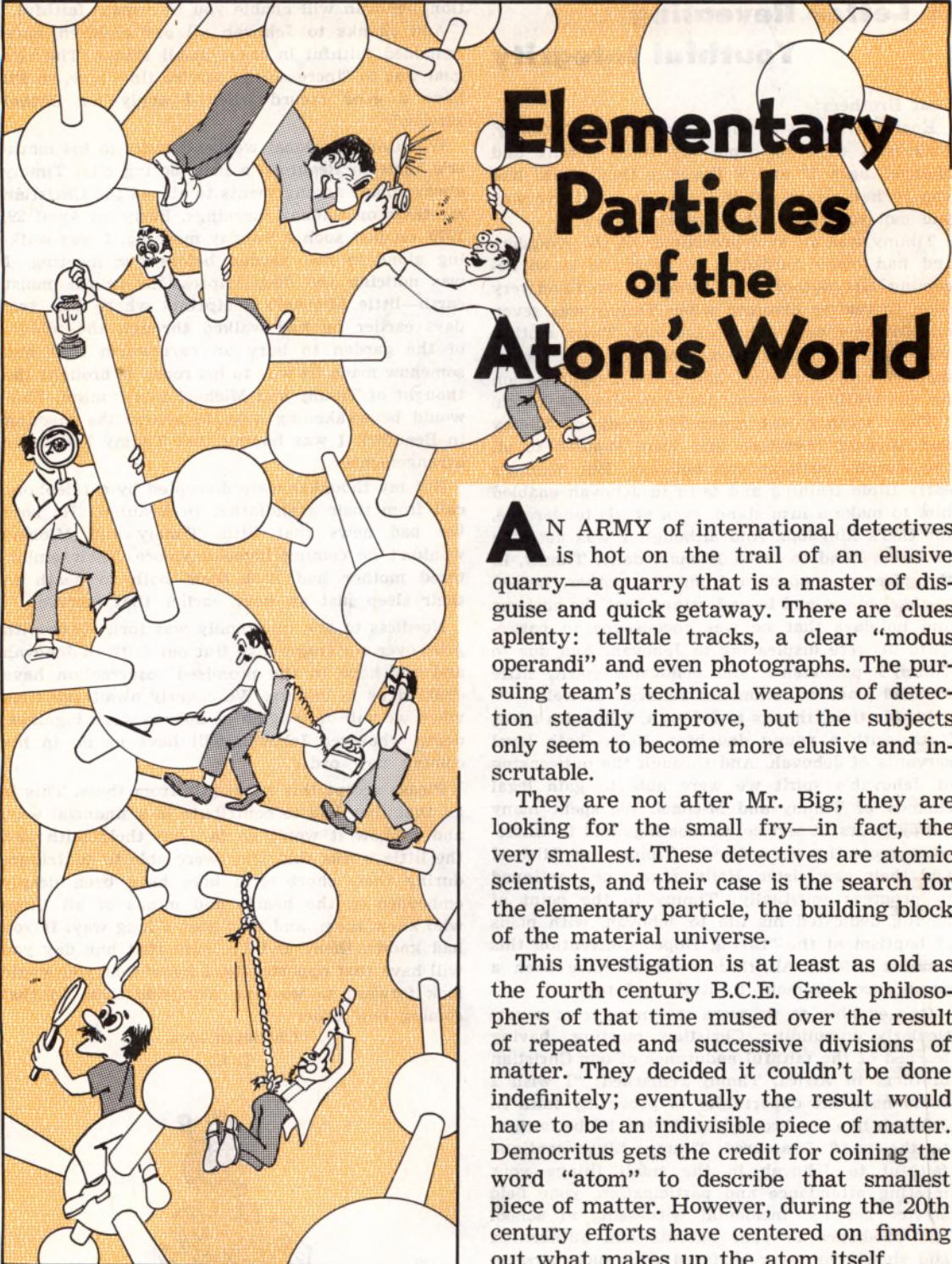
But my thoughts were disrupted by a telephone call from their grandfather in Beaufort. He bore the bad news that little Timmy and Michael wouldn't be coming home anymore. Their embittered mother had shot them both to death in their sleep just an hour earlier that morning.

Needless to say, our family was torn apart with grief over our tragic loss. But our faith in Jehovah and our hope in the promised resurrection have enabled us to endure. We eagerly await the time when we will once again be able to work together, doing whatever Jehovah will have us do in his coming new order.

Please accept this small gift from them. This is all that they had to contribute in a financial way, and I know it won't go far, but their faith and the little works that they were able to contribute during their short term here have been deeply embedded in the hearts and minds of all those who knew them, and that goes a long way. If you had known them, and I'm sure that one day you will have that opportunity, I know that you would look forward to working alongside them in that coming new order too.

Christian love,
T. C.





Elementary Particles of the Atom's World

AN ARMY of international detectives is hot on the trail of an elusive quarry—a quarry that is a master of disguise and quick getaway. There are clues aplenty: telltale tracks, a clear "modus operandi" and even photographs. The pursuing team's technical weapons of detection steadily improve, but the subjects only seem to become more elusive and inscrutable.

They are not after Mr. Big; they are looking for the small fry—in fact, the very smallest. These detectives are atomic scientists, and their case is the search for the elementary particle, the building block of the material universe.

This investigation is at least as old as the fourth century B.C.E. Greek philosophers of that time mused over the result of repeated and successive divisions of matter. They decided it couldn't be done indefinitely; eventually the result would have to be an indivisible piece of matter. Democritus gets the credit for coining the word "atom" to describe that smallest piece of matter. However, during the 20th century efforts have centered on finding out what makes up the atom itself.

The First "Elementary Particles" Are Found

J. J. Thomson sleuthed out the identity of the *electron* in 1897. He found that an electric current consists of these particles in great numbers. Electrons are so small that 6,000,000,000,000,000 pass through a 100-watt light bulb in one second. Least elusive of all the elementary particles, electrons are like fickle vagabonds that are easily transferred from place to place even by simple friction. When you walk across a carpet, your shoes may pick up billions of them that spread themselves over your body, only to gather and leap pell-mell through the air as a spark from your finger if you reach out to touch a light switch.

In 1911 Ernest Rutherford showed that all the positive charge of the atom and most of its mass resided in a region $1/10000$ the size of the atom itself. That gave rise to the popular image most of us have of the atom: a small central core or *nucleus* surrounded by fast-moving electrons that orbit it like bees around a hive.

By 1932 the nucleus was found to be made up of *protons* and *neutrons*. Protons carry the positive charge of the atom—exactly equal in size but opposite in kind to the negative charge on the electron. The proton is about 1,800 times as massive as the electron, about the same ratio as a refrigerator to a biscuit. Only a little more massive than the proton, the neutron carries no charge. By the 1940's experiments and theory had lifted the curtain on many additional particles playing a role in the nucleus. The scientists' mental picture of the nucleus was getting much more complex.

Methods of Detection

Physicists "see" particles by examining the residue of their interaction with matter. These interactions could be compared to the path of a mischievous child who disrupts the neighborhood by running

through flowerbeds and overturning trash cans. After a time the neighbors can recognize the pattern of evidence and identify the culprit. A charged particle in motion and free of its atom "home" behaves something like a child on a rampage. It bumps into other atoms and dislodges their electrons, leaving a residue of charged atoms.

The *cloud chamber* was an early detector of particles. Charged particles leave vapor trails in the chamber because of vapor condensation on disturbed atoms in the path, something like the trail of a high-flying jet airplane. More common today are *bubble chambers* that rely on a near-to-boiling liquid as a medium through which a stream of bubbles marks the path of the particle.

Getaway Experts

Particles travel at tremendous speeds. The *photon* shares the all-time speed record with the *neutrino* and the *graviton*. All three have no mass and therefore move at the speed of light (300,000 km/sec. or 186,000 mi/sec.), a rate that would take them around the earth more than seven times in one second.

Material particles (those with mass) can get up close to the speed of light but can never quite reach it. In fact, all the electron can muster when circling the nucleus is about one tenth of the speed of light. Its speed compared to that of the fastest particles is like an automobile on a highway compared to a supersonic jet airplane.

Fast-Change Artists

The time of existence of a particle is called its *lifetime* or simply its *life*. Electrons and protons are stable, which is another way of saying their lifetime is infinite. But most particles "live" only a very short time. For example, the *muon*, a particle produced by the interaction of

cosmic radiation on the upper atmosphere, has an average lifetime of two millionths of a second. When it "dies," an electron and two neutrinos suddenly appear in its place. This could be compared to a robber taking a few steps out of the bank and miraculously changing into three different people who run off in different directions.

This sudden changing of identity has given scientists no little problem when trying to study short-lived particles. In a few millionths of a second after its formation, a particle may disintegrate into two or more other lesser ones, which may, in turn, change to still other different and smaller particles. The process continues until it produces stable particles. When a particle changes its identity it is said to "decay." But why are the electron and the proton the only particles with mass that do not decay? Because of what are called conservation laws.

Conservation Laws

Put simply, a conservation law says that if a conserved quantity is measured before an event, that quantity should total up to the same amount after the event.

To illustrate, imagine a complex of four tennis courts surrounded by a high fence to help keep balls inside. As the players arrive we give each set of players 10 identical balls and tell them not to worry about keeping track of the specific balls they start with. During simultaneous games the balls would likely fly into adjacent courts and get used there too. Some balls may eventually get used by all players. After all games are finished we collect the balls. We expect to get back the same number we handed out. If we have fewer we would conclude that some flew over the fence, were still in the courts, or had gone out with the players. No other explanation makes sense: tennis balls do not disappear into thin air. In this case, 'tennis balls are conserved.'

Conservation laws rule the physical world. Nothing can happen that violates a conservation law: there are no lawbreakers among the citizens of the world of elementary particles.

The electron is stable because of conservation of mass and electric charge. It is the lightest charged particle. There are lighter particles than the electron but all of them are invariably neutral in electric charge. If the electron were to decay into one of these lighter particles it would have to get rid of its charge but it cannot because that would violate the law of charge conservation. It cannot decay into heavier charged particles because that would violate the law of mass conservation—as impossible as slicing a one-pound loaf of bread and getting slices that weigh two pounds. So the electron cannot decay because there is simply 'no place to go.'

The proton is stable because it would need to violate a different conservation law to decay. On the other hand, the neutron is stable as long as it has a proton to snuggle up to. Put a neutron into "solitary confinement" and it decays in about 15 minutes.

Kenneth Ford, in his book *The World of Elementary Particles*, emphasized the importance of conservation laws in this way: "The 'normal' thing is for a particle to undergo decay and transmute itself into other lighter particles. For reasons which are not fully understood there are two 'abnormal' particles, the proton and the electron, which are prohibited from decaying. According to this larger view of the particles, there are certain rules of nature (conservation laws) which happen to prevent the decay of these two particles. Because of this chance, the construction of a material world is possible."

"Of course, since there is only one Universe, and one set of natural laws, it does not make much sense to say that a particular state of affairs in the world exists

by chance. But this view of the multiplicity of particles continues the process, begun by Copernicus, of making man feel more and more humble when facing the design of nature. We and our world exist by the grace of certain conservation laws which stabilize a few particles and permit an orderly structure to be built upon the normal chaos of the submicroscopic world."

Conservation Laws Predict the "Neutrino"

Early experiments in the study of subatomic particles suggested that the neutron decayed in a nonconserved way. Researchers noticed that as a neutron decayed into a proton and an electron the momentum and energy after the decay was much less than it had been before the decay. Since these were conserved quantities, the conservation laws seemed to be violated in this case. Nuclear physicists could not accept this conclusion.

To save these conservation laws, theorists invented the *neutrino* and anointed it with all the necessary qualities to make it an indivisible partner in the decay process of the neutron. It could not be "seen," but the assumption of its existence was a product of the faith of scientists in the conservation laws they had learned to trust.

After 25 years of accepting the neutrino on faith, scientists captured it in 1956. No wonder it was so elusive; it has no charge, no apparent mass, and travels at the speed of light. So rarely do neutrinos interact with matter that most pass completely through the earth as easily as a bullet through tissue paper. In one try to verify the neutrinos' existence, experimenters sent a calculated 100,000,000,000 neutrinos through 44 feet (13 m) of iron to a detection chamber that still recorded the capture of only 29 of them. That is comparable to passing the entire

world's population through a small room containing a bathroom scale, with the result that only one fifth of a pound (1/10 of a kg) is registered.

Classification Schemes

By 1960 so many particles had surfaced that scientists could feel like a shipwrecked zoologist washed up on an island having a great population of never-before-seen animal life. In an effort to bring some order into the variety of the particle population, physicists classified the particles into groups based on similar properties—similar to the way a zoologist would classify different animals into mammals, reptiles, and so forth.

Heavier particles are called *hadrons*. Extra-heavy hadrons are called *baryons*. Baryons (protons, neutrons, and so forth) are the "elephants" of the subatomic-particle zoo. Lighter hadrons are called *mesons* (pions, kaons, and so forth) and are more "tiger-sized." *Leptons* (electrons, muons, neutrinos) are generally the "insects" of the particle world.

The actual system is not based on size and weight but on the likelihood of the members of each class to interact with one another. Elephants interact with other elephants differently from the way they interact with insects. In fact, insect and elephant may not notice each other at all except when the elephant munches a leaf already being dined on by the insect. The elephant-like hadrons interact with each other with what is called the *strong force*. The insectlike leptons are completely oblivious of the strong force: what does a grasshopper care if two elephants are fighting? But charged leptons are sensitive to the *electromagnetic force* and they will interact with the hadrons according to the rules of this force, just as both animals must notice if the smaller animal flies into the bigger one's eyeball.

Is There a More "Elementary" Particle?

About 300 particles, mostly hadrons, have been discovered since man started probing the atom and picking it apart. The leptons seem to be truly "elementary"—that is, they have no discernible size and seem to have no internal structure. Furthermore, there are only six known leptons, a nice small number suggesting simplicity. Hadrons are not so simple. They have a measurable size and number in the hundreds. When a hadron decays, other hadrons come spitting out of the debris.

In the 1960's Murray Gell-Mann and George Zweig proposed a new particle, the *quark*. Their theory stated that all hadrons were made up of two or three quarks in some combination. By attributing certain properties to their theoretical quarks Gell-Mann and Zweig could account for all known nuclear particles (hadrons) being constructed from just three different quarks named "up," "down," and "strange." A bonus of the theory was the prediction of the existence of a previously undiscovered particle that was subsequently produced and found to have the anticipated properties. This greatly strengthened the theory's acceptance. Recent experiments now strongly suggest the presence of three more varieties of quarks dubbed "charmed," "truth" and "beauty."

College Admissions Tests Opened to Public

"Calling standardized admissions tests 'imprecise and open to potential misinterpretation and misuse,' Governor Carey announced yesterday that he had signed a bill requiring the services that administer the tests for colleges and graduate schools to open their examinations to public scrutiny for the first time. The law will allow students to see their graded tests and the correct answers and thereby confirm the grading."

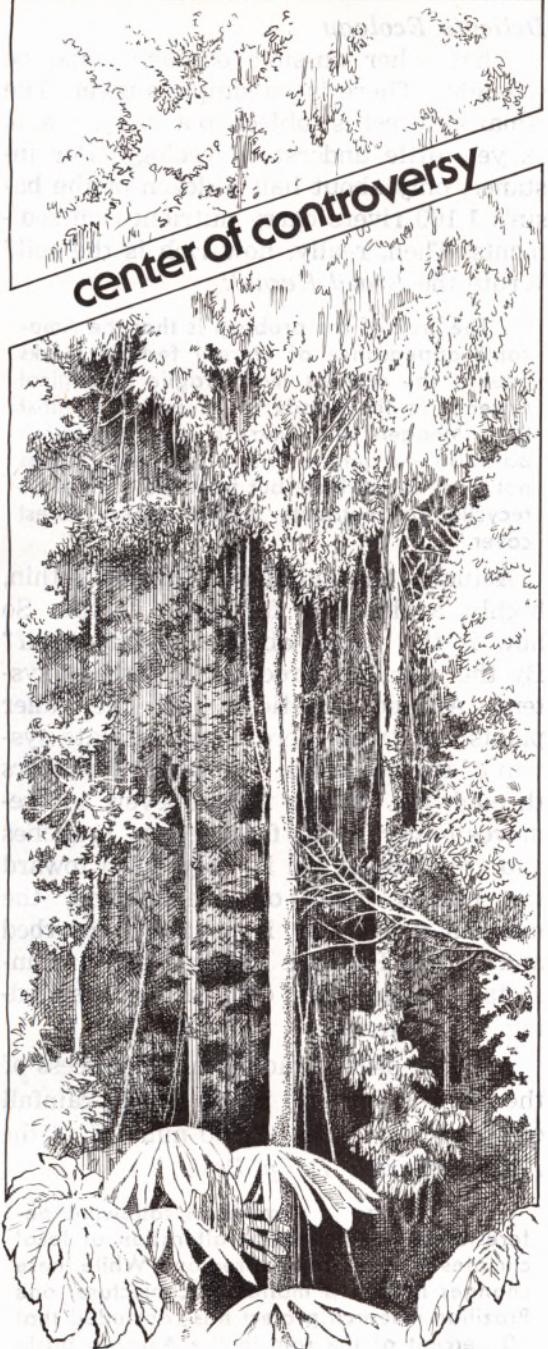
The New York "Times," July 15, 1979, said: "The admissions-tests bill was the subject of intense lobbying by testing services and college and university administrators, who opposed it, and from student, parent, educator and consumer groups, which supported it. . . . Although the law applies only to tests given in New York State, it will have a major effect nationwide by making the validity studies and actual tests and answers—which have been closely guarded secrets—widely available."

As of this writing, individual quarks have not been conclusively detected; some think they never will be isolated. But quarks are a firm theoretical basis for all particle physicists. As with the neutrino, scientists believe in them without seeing them because they can be used to predict what detectable particles of the atom will do under certain conditions.

Will the number of quarks making up the present theory continue to account for new particles yet to be discovered? Will more quarks be uncloaked? Will a quark ever be isolated? Are the quarks truly the ultimate "elementary particles" of the atom's nucleus? If not, what is a quark made of?

"What is it made of?" may never be completely answered. Each time the probing of matter advances down a step, the so-called "elementary particle" seems to be made up of something more simple. (Now there's talk of "gluons.") Will the search never end? It may be that our curiosity will never be completely satisfied. For some, that prospect seems more tantalizing than discouraging. They feel as did the Christian apostle Paul: "O the depth of God's riches and wisdom and knowledge! How unsearchable his judgments are and past tracing out his ways are!"—Rom. 11:33.

Amazonia



A sudden drive to open up the Amazon Basin has triggered one of the hottest ecological controversies of the century. Chunks of tropical rain forest are going up in flames. The rest of the world wonders what the long-range effects will be. Will the world's largest green jungle become a red desert? Our correspondent went to Manaus, in the heart of the Amazon, for a firsthand look.

"BRAZIL is on fire," exclaimed the Brazilian Special Environmental Secretary. Others join in his outcry. Reports about the possibility of the vast Amazon region being transformed into a "red desert" by the year 2000 have alarmed scientists, the common man and the Brazilian government.

Satellite pictures reveal that in one area of 136 million acres (55 million ha; the size of France), 10 million acres (4 million ha) have been deforested. That is an area larger than Holland. What is more, some renowned scientists express their belief that possibly as much as 10 percent of the Amazon rain forest is already gone.

On the other hand, *Veja* magazine states the opinion of many Brazilians: "It is also natural that Amazonia cannot indefinitely remain closed to economic exploitation as if it were a botanical garden—the country positively needs the region's riches."

Just what is at stake in the Amazon? What is the Amazon jungle really like?

World's Largest Tropical Rain Forest

Amazonia, as the Brazilians call it, sprawls over territory in eight countries. Including the Tocantins, it is an area of 2,700,000 square miles (7,000,000 km²), or about the size of Australia. Brazil's share is almost 2,000,000 square miles (5,000,000 km²). Although it is the world's largest tropical rain forest, only about 65 percent of the entire area is more or less dense jungle. The rest is woodsy grass-

land, open country and shrubland. An incredible arterial network of 50,000 miles (80,000 km) of waterways crisscross this immense region. Over 14,000 miles (23,000 km) are navigable—equal to over half the earth's circumference.

So diversified is its composition that researchers recently identified 179 species of trees with diameters over six inches (15 cm) on a mere two-and-a-half acres (1 ha) of land. All together, some 4,000 different species of trees grow in the forest. But so little is known about these trees and their potential that only six or seven are commercially exploited. Among the better known are sleek Brazil nut trees, mahogany, cedar and rubber trees.

In general terms, it is said that over 60,000 species of tropical plants are native to the Amazon Basin. That is nearly a quarter of all known plants. No other concentration of tropical plants on earth can match this. Even so, many thousands have never been classified. Nor have all the animals, birds, fish and insects been studied. For centuries the Amazon jungle has virtually been untouched.

Therefore, what might a mass clearing of the Amazon mean to mankind? According to scientists, complete knowledge of the Amazon flora and fauna could be lost before it ever came to light in its entirety. At a recent Endangered Species Conference in San José, Costa Rica, David Munroe, president of the International Union for the Conservation of Nature, said:

"There are enormously powerful arguments to be made in favor of preserving the rain forest. At the same time the leaders of developing countries believe there are equally powerful arguments to cut it down and use the money for the economic gain of their people. At some point you begin to reach another level of argument that is less materialistic. People are going to have to decide in their own minds what kind of world they want. One in which everything is convertible to economics and which looks to be pretty

barren and dull. Or one where there is great value placed in the grand variety of things, where there is the excitement of surprise in the natural world and the beauty of many kinds of life all working together."

Delicate Ecology

What other possible damage could be wrought? There is no simple answer. The Amazon forest is subject to a complex and, as yet, little understood ecology. For instance, only about half a dozen of the basin's 1,100 rivers carry nutrient-rich sediments. Then, really, how rich is the soil? Wrote the *Brazil Herald*:

"The crux of the problem is that the Amazon's appearance of eternal fertility masks one of the world's most fragile ecological systems. In the words of American scientist Betty Meggers, the Amazon is a 'counterfeit paradise'—a jungle whose lushness derives not from its soil base but from the continuous recycling of nutrients through dense forest cover."

Actually, the soil of the Amazon is thin, highly acidic and far from fertile. So how is the jungle able to sustain itself? By the so-called direct-cycle nutrient system. Around practically all the taller plants and trees there is an intricate system of surface roots. The rainwater filters through the various foliage levels and removes mineral salts from leaves, branches and tree trunks. On its way down toward the humus layer on the ground, the nutrient-rich water is partially absorbed and stored. Parasite plants, fungi and insects also play their own part in the feeding of the forest.

Another crucial factor in the process of the forest's survival is the yearly rainfall of up to 142 inches (3,600 mm). Said the *Latin America Daily Post*:

"The change in vegetation following deforestation could lead to alteration of local climates in some tropical regions. While these changes remain a matter of conjecture, one Brazilian research project has concluded that 50 percent of the rain in the Amazon basin

is generated by water evaporation from the forest itself. If the rainfall is reduced significantly as a result of clearing, the entire natural balance of the basin could be upset."

This discovery came as a surprise, for in other regions, such as along the Mississippi River, only 10 percent of the rains are caused by local evaporation, while the rest comes from the sea.

Amazon—the "Earth's Lungs"?

Much has been written about the Amazon as being the "earth's lungs." But is that so? It is claimed that half the earth's plant-generated oxygen does indeed come from the Amazon. But scientists also claim that this production is very small in comparison to the total volume of oxygen present in the atmosphere. The book *Amazon Jungle: Green Hell to Red Desert?* says it amounts to only about 0.05 percent of the annual production of the atmospheric and dissolved oxygen pool.

However this may be, there is another disconcerting factor. It is the amount of carbon dioxide that would be released by the wholesale burning of forest refuse. Over the last 100 years the presence of this gas has already increased by 10 percent. Clearly, man is dangerously tampering with the ecology.

End of the Natives?

Many ask, "How do the natives fare in the struggle for technical progress?" The original Indian population in 1500 C.E. was some three million in Brazil. Over the centuries, Western diseases and abuses have reduced their number in the country to fewer than 200,000. In 1970, there were some 42,000 left in the Amazon. An official of the Brazilian National Foundation of the Indian stated that more than 3,000 Indians in the region are in only very loose contact with white men or are known only through the reports of other Indians.

These primitive natives, mainly of Tupi

culture, live in the areas exactly where mining and other undertakings are spearheading the push toward development. What will happen to these Indians? Officially, they are granted the right to live within defined areas. But as one state governor put it: "The territory cannot afford to preserve half a dozen native tribes that are obstructing progress." The Indian Foundation is trying to localize and pacify hostile tribes by attracting them to restricted areas. More than 100 tribes have been resettled in reserves. The best known is the Xingu Park in central Brazil.

Unique Survey

In 1970 the Brazilian government began a radar and photographic mapping survey called "Radar of the Amazon"—RADAM for short. The project came to its completion in the spring of 1979, having cost around 1,500 million cruzeiros (50 million dollars, U.S.). It claimed the lives of 55 men, and six airplanes were lost.

What did this pioneering survey reveal? It confirmed that there is a total of 1,235,000,000 acres (500,000,000 ha) of Amazon soil. Also, 70 percent is said to be suitable for farmland and cattle ranches. Almost 25 million acres (10 million ha) have been described as highly fertile. Although this discovery has been received as good news, RADAM technicians stressed the absolute need to take great care in developing the area and to work together with the highly fragile ecosystem.

Of course, there has been great elation about the Amazon's astronomic timber potential and the possibility of using it to reduce Brazil's 1.2 trillion cruzeiros (\$40,000,000,000, U.S.) foreign debt. There are also fabulous mineral deposits. The manganese deposits of Amapá are estimated at 36 million tons. One of the world's largest deposits of iron ore (with 60-percent solid iron) exists in the Carajás mountain range in the state of Pará. Aluminum-

bearing bauxite reserves are calculated at 500 million tons. Kaolin, used as raw material for ceramics, in papermaking and oil refining, is present in practically inexhaustible quantities. Besides that, deposits of cassiterite (tin ore), rock salt, calcareous rocks, atomic minerals and gold are there for the digging.

What efforts for rational exploitation have been made?

Current Development

Ten years ago the Amazon was the biggest virgin wilderness on earth, a sleeping giant. Today it is crossed by almost 10,000 miles (16,000 km) of roads, including the 2,500-mile (4,000-km) Trans-Amazon Highway and others. By the end of 1977, more than one million colonists had moved into the area. Environmentalists are concerned and warn that the region is on the verge of devastation. The Amazon wilderness could become the Amazon desert.

Be that as it may, the rush is on. Hundreds of cattle ranches have opened up, some the size of European countries. Ranches with 20,000 head of cattle are quite common. Enormous hydroelectric plants are under construction, like the one on the Tocantins River, with a planned output of 6,700 megawatts. The size of private investment projects is mind-boggling. American billionaire Daniel K. Ludwig, for example, bought about a million ha (2.4 million acres) of jungle on

the Jari River in order to grow eucalyptus trees for cellulose, to plant rice and to dig up kaolin.

The Future

How can the irresistible advancement be rationalized and controlled? Paulo Azevedo Berutti, president of the Brazilian Institute of Forest Development, emphasized the need to increase the number of forest inspectors. In 1977, the nations sharing in the Amazon region concluded the Amazon Pact, a suprapolitical instrument designed to assure the joint exploitation and supervision of development.

Early in 1979, Brazilian Minister of the Interior Mário Andreazza announced the government's steps toward the solution of a muddled situation. He declared that suggestions and programs for the occupation of the Amazon must have preservation in view and be discussed on a national level.

Surrounded by voices of controversy, positive sounds are also heard in the green wilderness among the nine million Amazon inhabitants. On the Brazilian side, over 6,000 are advising their neighbors that Jehovah God, the Creator of the earth, will prevent man from completely ruining it. In fact, at two recent Christian assemblies in Manaus and Belém, 8,000 persons discussed Jehovah's purpose to turn the whole earth into a delightful paradise.

And that includes the Amazon, the world's largest greenhouse.

Insects Made It First!

- The well-known polyesters that have proved so useful for fabrics and other purposes are usually considered to be a man-made product. However, according to *Science* magazine, researchers have found what "appears to be the first report of a naturally occurring linear polyester." Bees of the genus *Colletes* secrete a substance to line cells formed in the earth for housing their eggs. Once the substance is spread, a still unknown process (possibly enzymatic) polymerizes it, and the resulting polyester protects the bee larvae from water, fungi and soil microorganisms. The tough natural polyester is said to resist decay for more than a year.



Sixty-seventh 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) Urairat, C.; Isobe, J.; Vsgosit, S.; Macura, S.; Pereira, C.; Perez, G.; Tsukamoto, S.; Pama, J. (2) Dawal, S.; Mowbray, C.; Lee, J.; Berkers, G.; Pitcher, C.; Verwiebe, P.; Walker, I.; Earnshaw, L. (3) Allan, S.; Wilson, C.; Pama, P.; Williams, J.; Pereira, K.; Stewart, P.; Kassholm, A.; Darawan, S. (4) Urairat, A.; Wiesinger, G.; Crail, S.; Saunders, C.; Schnell, S.; Souilhe, P.; Verwiebe, S.; Samuel, R.; Walker, D. (5) Allan, R.; Wilson, J.; Bhatt, K.; Lechelt, M.; Kassholm, M.; Solnier, R.; Perez, A.; Lee, D.; Kennedy, G. (6) Davies, J.; Berkers, R.; Heytman, D.; Earnshaw, R.; Baugh, D.; Labryn, J.; Demetrius, J.; Crail, J.; Macura, G.

Joyfully Serving with Constancy

Encouragement for Gilead School's 67th Class

IT WAS a thrilling day for the 51 students about to graduate from the Watchtower Bible School of Gilead's 67th class. Graduation day, September 16, 1979, was bright and clear, and great anticipation was in the air as 2,033 persons filled up Jehovah's Witnesses Assembly Hall at Long Island City, New York. The students had volunteered to serve as missionaries in any part of the world. The occasion was a fine opportunity for the school's president, instructors and others to give them some parting counsel to help ensure success in their far-flung missionary assignments.

Some speakers, such as F. W. Franz, the school's president, highlighted the need for the missionaries to keep their joy. Franz referred to the joyful Festival of Booths celebrated by the ancient Israelites and encouraged the students to have this same kind of joyful spirit, for it would be a strength from Jehovah to them.

Other speakers stressed the need for constancy. For example, C. Chyke said: "Constancy is an admirable quality and one that we should all want others to see in us." Jehovah, "the Father of the celestial lights," he explained, is the prime example of constancy, since "with him there is not a variation of the turning of the shadow." (Jas. 1:17) Chyke cited Daniel the prophet as another example in constancy. Even Persian King Darius, he showed, noted that Daniel served his God "with constancy." (Dan. 6:20) The result of serving with constancy? "Many blessings will come your way," he explained, "as you receive further good gifts from our celestial Father—providing you show appreciation for the privilege you now have of serving as a missionary by sticking with your assignment and working constantly in the furtherance of the 'good news.'"

Giving more such encouragement, instructor Karl Adams asked: "Where will you be next year at this time?" Those in the class, he said, have shown a fine attitude that can have a bearing on the answer. He observed that they have displayed the spirit of the prophet Isaiah, who said to God: "Here I am! Send me." (Isa. 6:8) It was not merely Isaiah's offer that counted, but

"it was what he did." Despite problems and difficulties, he stayed at his assignment for 46 years. "Next year, will you be caring for an assignment that was given to you because you said to Jehovah: 'Here I am! Send me'?" the speaker asked. In closing, Adams noted that the students not only have this fine spirit but serve with joy, not being ascetics, but knowing how to enjoy life.

To maintain joy and constancy in missionary service requires something brought to the students' attention by instructor U. V. Glass. "One word best characterizes this class," he observed, "and that is 'balance.'" He added: "You know how to have a good time. And you know how to be serious." Their background may account for this good balance, he explained, since they are not novices in the Christian way of life but average over 13 years, and in age they averaged 30.5 years. Glass encouraged them to continue to show balance: "Don't get caught up in any kind of extremism. Don't allow inconsequential things to get out of focus. Don't lose your sense of humor, but keep it in control."

Another speaker, R. Wallen, asked the students, "What will you be—an asset or a liability in your missionary assignment?" To be a real asset requires 'remembering that your Gilead training may have made you better equipped but not better than your brothers.' As a result of their Gilead training, he said, their lives, as well as their lips, should offer fine sermons attracting others to true Christianity.

At intervals Chairman Schroeder read cablegrams from all continents of the earth wishing the students well. They had come from 15 lands and now they were going to 23 different ones. Among them Chile, the Solomon Islands, India, Papua New Guinea, Western Samoa, Japan, Upper Volta, Suriname, Ivory Coast, Austria, Bolivia, Sri Lanka, Dominican Republic, Senegal, Colombia, Martinique and Nigeria.

After an intermission the graduates put on an international musical program and also a Bible drama about Jacob and Esau. The day's program indeed encouraged the missionaries, and all present, to serve Jehovah with joy and constancy.



The Bible's View



CHILDREN start learning immediately after birth. Baby's first lesson should be on love. It learns to love by being loved, by being exposed to examples of love, by receiving love first. This is in line with the principle stated at 1 John 4:19: "We love, because he [God] first loved us." If the baby does not receive love, it becomes insecure. If its cries for attention are ignored, it may become ill. If it is emotionally deprived over a period of time, it may be stunted emotionally for the rest of its life. Such a child may be psychologically unable to make deep attachments and commitments to others later on in life.

Early learning is not limited to emotions. The intellectual potential of a child in the first three years of its life are much greater than most persons realize. Learning one language is difficult for adults, but the babe reared in a family where two languages are spoken learns both at the same time. The richer the learning environment is for the small child the faster he learns; he soaks up information like a sponge.

This means that the time for parents to start teaching their child is immediately after its birth. The first three years are most vi-

PARENTS— The Child's First Teachers

tal. It is a mistake for parents to think that the time for its learning to begin is in kindergarten. That may be too late. Burton White, a psychologist and director of preschool projects, says that he "is convinced that a child's experiences during the first three years of life have a direct influence on how competent he will be later on. If a child develops poorly during these years, he is unlikely to make up the lost ground when he enters school." White says that the parents who are the most effective in educating their children are "generally firm and effective disciplinarians, while also showing great affection for their children, and they are responsive to overtures from their children, whether for help, comfort or shared enthusiasm."

One of the great weaknesses of high-school graduates, and some college graduates, is reading. "Reading Shouldn't Wait for School," one article is headlined. Its opening paragraph reads: "How well a child does in school depends, in large measure, on how well he can read. And how well he can read depends, in larger measure than is usually acknowledged, on how skillfully his family has encouraged him to read." Some of the suggestions of the article are: Read to your child as he is cuddled in a warm relationship, starting no later than his first birthday, and do it daily. Keep picture books handy for his use. Make bedtime reading a habit—it relaxes him, helps him to unwind and ends his day in comforting closeness with his parent. As he learns the alphabet and words and can read simple sentences himself, provide suitable material for him. But you continue reading more advanced material, beyond his reading skill but within his ability to comprehend.

The Bible indicates that Timothy had such early instruction: "From infancy you have known the holy writings." (2 Tim. 3:15; 1:5) Parents today have a valuable aid to give such instruction to

their children, namely, *My Book of Bible Stories*.* After your children learn to read, encourage them to read to learn.

Teaching children is not to be confined to books. The Bible shows that parents should instruct their children throughout the day, whenever opportunity presents itself. "These words that I am commanding you today must prove to be on your heart; and you must inculcate them in your son and speak of them when you sit in your house and when you walk on the road and when you lie down and when you get up." (Deut. 6:6, 7) With all this teaching, it is important that there be discipline and respect for authority. "What son is he that a father does not discipline?" (Heb. 12:7) Then when the child goes to school he will have proper respect for the school authorities and be disciplined to study.

One parent wrote of the course he followed in cooperation with the school where his children attended:

"At least twice a year we attended functions in which the principal and the teachers explained the curriculum and the approach to teaching. This was followed by an opportunity to meet our children's teachers and to discuss how our own children were doing. From the start we explained to our children that we viewed the authority of the teachers as an extension of our own and that they should be obeyed, unless, of course, there was any compromise of Bible principles involved.

"With regard to reading, authorities agree that school isn't enough to make a good reader, due to class size and other factors. Our children are good readers today because of our home program. Dur-

ing grammar school we got up 20 minutes earlier and had Bible reading daily.

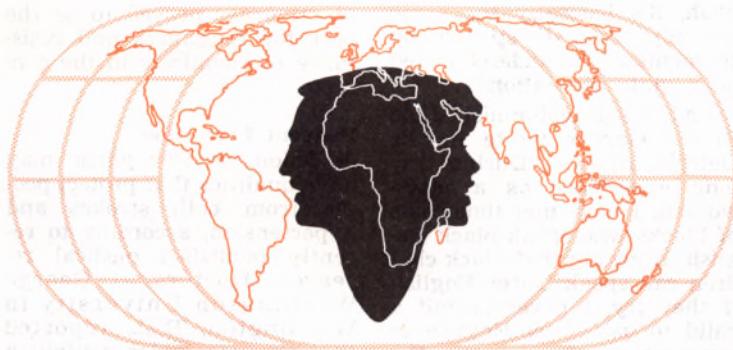
"It was more difficult in junior high and high school. The schools were larger, there were no dress codes and there was a fear on the part of students of being called a 'square' if their grades were too good. We still met with their teachers and did what we could. We tried to be reasonable with our boys, for there is a danger if the child stands out too much from the rest in dress and hairstyle. Peer pressure is intense.

"The schools where our boys went were good, especially the grammar school. Part of the failure of the public schools is lack of support and involvement by parents on the individual and daily level. It may be difficult for parents to do this, but there is no substitute for it and it would seem that almost any system would be doomed to failure without parental support."

Christian parents are also concerned about drugs and sexual immorality in the schools. The best protection they can give their child is to inculcate in them moral principles based on God's Word, the Bible. What course will bring the blessing of our heavenly Father? (Eph. 3:14-16) What does your family stand for? What is expected of children who belong to your family? Do you live up to these standards yourself, setting the right examples? Do your children understand that to belong to this family certain standards are to be met, certain conduct is acceptable and certain actions are not? (Eph. 6:1-4; Col. 3: 18-21) Children want the security of belonging. Let them feel your approval and love, and your pleasure when they do well. And, above all, keep the lines of communication open, by your love and your fairness and your willingness to listen.

* Please see page 32.





Watching the World

"Illiterate" Americans

◆ According to a recent Ford Foundation report, some 23 million adult Americans cannot perform simple reading and writing tasks such as filling out a check, addressing an envelope or reading a job application form. And for the 11th year in a row, Scholastic Aptitude Test scores of American high-school seniors continued their fall. On a scale ranging from 200 to 800, the average verbal score dropped to 427 and the mathematics score to 467. Just 10 years ago, the averages were 463 and 493, respectively. "Originally 500 was supposed to be average," said the New York Times. "The national decline in scores has been viewed in many quarters as evidence that something is amiss in American education."

Rights Restored

◆ Do workers have a right to give priority to religious commitments when asked to work overtime? The business publication *Boardroom Reports* tells of "an employee with 20 years' service [who] had never refused to come in on a Saturday when needed until the one time when, he explained, he had agreed to help direct an upcoming Jehovah's Witness Bible class." The employee was fired. Yet *Boardroom Reports* notes that in such cases

"federal laws require an employer to make reasonable accommodation to an employee's religious practices if it can be done without undue hardship to the business." In this case the court decided that the employee "had a right to choose Bible class rather than overtime. It was religious bias for the company to fire him. He must be rehired with back pay."

Hunger Persists

◆ When the U.N.'s World Food Council recently opened its conference in Ottawa, Canada, Executive Director Maurice Williams compared the present situation with the crisis that produced the World Food Conference of Rome in 1974. He warned that "it is not possible to be optimistic or complacent in the face of evidence which indicates that there are probably more hungry and malnourished people in 1979 than the 450 million to whom the 1974 conference directed its attention." He blamed much of today's problem on the inequity of food distribution.

China to Publish Bible

◆ According to a United Press International dispatch, the People's Republic of China will publish a complete Chinese-language edition of the Bible for the first time in 30 years. Protestant clergyman

Yin Ziehzeng asserted that the "government has already sanctioned translation and publication." He says that a government-controlled firm will print as many as 100,000 copies.

"High" Hands on the Nuclear Trigger?

◆ The U.S. Air Force recently reported that two marijuana cigarettes were discovered in the control room of an Arizona underground atomic missile silo. As a result, the launching crew and site guards were suspended from one of the 18 Titan-2 missile sites that encircle the city of Tucson.

Diesel Fuel from Trees?

◆ Nobel-Prize-winning chemist Melvin Calvin claims that when he visited Brazil this year, he was shown a tree whose sap closely resembles diesel fuel. Calvin told a recent meeting of the American Chemical Society that Brazilians have "put [the sap] in a car, directly out of the tree, and it ran fine." According to *Science News*, full-grown copaiba trees, Brazilian relatives of the rubber tree, produce 10 to 20 L (2.6 to 5.3 gal.) of the high-powered sap from a single taphole within two hours. And the taps can be made semiannually. Joked chemist Calvin: "You don't even need an oil company."

"After Life" Experiences

—How Real?

◆ Soviet Doctor Vladimir Negovsky, said to be the world's leading authority on the science of bringing dying persons back to life, recently commented on the "after life" experiences of some whom he has brought back from clinical death. Negovsky insists that such experiences are "the productions of a sick brain." He explains that "when a person dies, his brain dies, bit by bit, and some sort of imagination occurs, some sort of dusky,

fantastic, unreal suppositions. This is typical of all sorts of brain malfunctions." The doctor stated that "this happens not during the time of death but during the time of dying or in the time of coming back to life. What the patient sees is not in the nether world but in this world."

Was It Really a Crime?

◆ The Soviet daily newspaper *Moldavia* recently gave a glowing report about the "loyalty" of a printer who had been asked secretly to print 10,000 copies of a book on Bible doctrines, *The Truth That Leads to Eternal Life*. The printer advised Soviet police, and "owing to Boris' [the printer's] vigilance a grave crime was prevented," crowed *Moldavia*. But apparently even Soviet authorities were hard pressed to justify calling an attempt by others to spread Biblical knowledge a "grave crime," since "the competent authorities decided against prosecuting the men." However, *Moldavia* darkly observed: "There is something conspicuous and unnatural in the way Jehovah's Witnesses display their adherence to the faith."

"Black English"?

◆ A U.S. federal judge recently ruled that "black English" would have to be considered when educating children who allegedly speak this "language." The ruling claimed that "black English has been shown to be a distinct, definable version of English. . . . It has definite language patterns, syntax, grammar, and history." However, prominent black leader Roy Wilkins states: "That is a lot of nonsense. English is not 'black,' 'white,' 'yellow,' 'red,' or 'brown,' and black children, while learning it, have no special rules of grammar, syntax, spelling, or pronunciation." He also observed that "if there is such a thing as black En-

glish, it's basically the same slovenly English spoken by segments of the undereducated poor white population."

And black columnist June Brown Garner wrote in the *Detroit News*: "During my long experience as a news-woman, I have met thousands of blacks who speak black English. Knowing that black children can speak better English if they try, I never permit a child to use black English in my presence. I get better English by simply asking for it." Clearly, regardless of a person's race, he should endeavor to speak correctly.

Biggest Weight Loss

◆ Since March of 1978, a Washington man has reportedly shed over 900 pounds (400 kg) after being rushed to Seattle's University Hospital, unable to move or speak. "We were not able to weigh Jon because he was too sick," said Dr. Robert Schwarz, "but we estimate that he weighed about 1400 pounds. He was probably more than that. He was by at least 300 pounds the heaviest person ever reported." Fire-fighters had removed a window in the ailing man's home and put him on a thick plywood slab to transport him to the hospital. He "hopes to drop to 300 pounds (140 kg) by December," according to a report in the *New York Post*. "Then he plans to leave the hospital with a goal of slimming down to about 210 (95 kg)."

Plants Reinforce Concrete

◆ In Biblical times straw was used to reinforce clay bricks. Now researchers at Zambia University in Africa say that certain plant fibers can be an economical alternative to steel or fiberglass reinforcement of concrete. They claim that plant-strengthened concrete is five times as strong as concrete alone. Among several plant types they tested, ele-

phant grass proved to be the best for toughness and resistance to chemicals in the concrete.

Pungent Protection

◆ Onions and/or garlic may have qualities that protect people from both strokes and hypertension, according to recently published medical research. Doctors at George Washington University in Washington, D.C., reported that the vegetables contain a compound that inhibits the type of blood clotting that can cause strokes. And researchers at East Texas State University told a chemical conference in Honolulu that they had found that an onion extract dramatically lowered blood pressure in experimental animals. "We had often been told that people consumed onions or onion juice for the treatment of high blood pressure," they said. Apparently this "folk remedy" has scientific foundation.

Bugs, Beware!

◆ With "something like the cement overshoes used by Chicago gangsters in the 1920s," says *The Economist* of England, potato plants now being bred by government scientists protect themselves from pesticide-immune insects. Pests landing on the hybrid plants break some of the tiny hairs covering their stems and leaves. A fluid that becomes sticky in the presence of oxygen flows out, and "within seconds the bug is quick-set in 'cement,'" relates the report. The hapless insects die of exhaustion or starvation. The Plant Breeding Institute near Cambridge is now trying to improve the hybrid's low potato yields.

Sex-Change Surgery Dropped

◆ After performing over 100 sex-change operations during the past 13 years, Baltimore's prestigious Johns Hopkins

Hospital has abandoned the procedure. According to a report in *Archives of General Psychiatry*, this conclusion was reached after a study of 50 transsexuals indicated that the surgery "does not cure what is essentially a psychiatric disturbance and surgery does not demonstrably rehabilitate the patient."

Reading Leads to Rhodes Scholarship
◆ The famous Rhodes Scholarship for study at Oxford University in England was awarded for the first time to an American black woman, Karen Stevenson. The award is given on the basis of both scholarship and athletic ability. To what does she attribute her scholastic achievements? "We had library cards and were always in trouble with

overdue books," Miss Stevenson said. "No television was allowed during the week. If there was something we especially wanted to see . . . we had to talk to [mother] about it the Sunday before and plan for it."

How Many Fatalities?

◆ A study made public by Congress shows that about 75 percent of the entire United States population would be killed in an all-out atomic war. That is about 165 million people. The injured could total 33 million, many of whom would die in following years due to diseases caused by radiation. Genetic defects would cause further damage to millions. Thus, practically the entire population would suffer death or health damage in one way or another.

Price Advantage

◆ A survey made by the U.S. Department of Agriculture indicates that a typical hamburger, French-fry and soft-drink meal bought at a fast-food outlet averages about \$1.70 (U.S.)—an increase of 48 percent over the past three years. If one prepares the same items at home, the cost is 83c—an increase of 51 percent during the same period.

Biggest Shipping Loss

◆ When the supertanker Atlantic Empress sank in August after a collision in the Caribbean, it became the largest commercial ship ever lost. Its cargo of 275,000 tons of crude oil itself was the biggest lost from one ship. A spokesman for the insurers said that the total loss could amount to \$85 million (U.S.).

