

Awake!

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The Catholic Church *Its View of Sex*

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Feature Articles

More and more people are seeking guidance on matters of sex and marriage. The Roman Catholic Church claims to be the guardian of morals and qualified to give advice on this subject. But does what this church teaches provide wholesome, beneficial guidance? How does what it teaches compare with what the Bible says?

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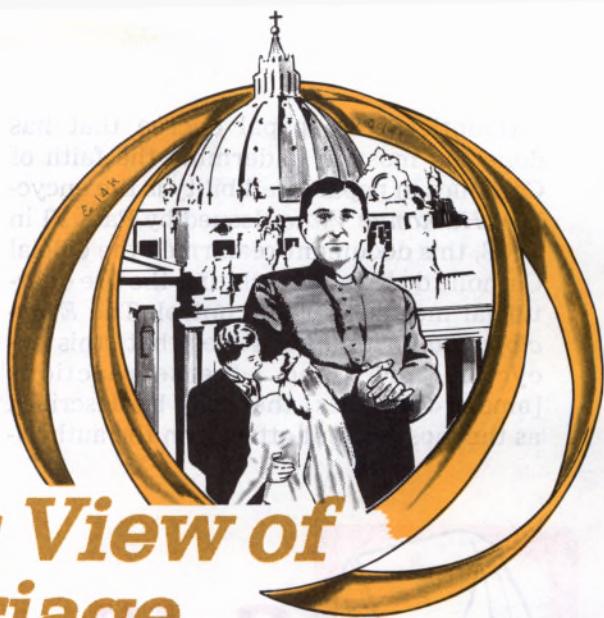
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Frederick W. Franz, President



The Church's View of Sex and Marriage

SEX and marriage are indeed topics of worldwide interest. Perhaps on no other matters do people more commonly seek advice and guidance. The Bible has much to say relative to sex, probably more than most people realize. And so does the major religion of the Western world, the Roman Catholic Church.

By what it has taught regarding sex, the Catholic Church has greatly influenced the lives of millions of its adherents. In particular, the lives of priests and nuns have been affected. Has the teaching of the church had a wholesome, beneficial effect or a bad one? How does the view of the Catholic Church on sex compare with what the Bible teaches? This series of articles will examine these matters.

The attitude of the Roman Catholic Church toward sex and marriage is indicated in *A Catholic Dictionary*, which states: "The principles which have induced the Church to impose celibacy on her clergy are . . . that, being called to the altar, they may embrace the life of continence [restraint from sexual intercourse], which is holier than that of marriage."

If, according to Catholic doctrine, refraining from sexual intercourse is "holier," where does this leave marriage? This is a question that has long concerned historians. Thus, *A History of Christianity*, by Paul Johnson, asks: "If, therefore, celibacy were superior, and marriage inferior, though licit, did this not imply that sex was intrinsically evil and even in the context of marriage a form of licensed sin?"

The insistence of Pope John Paul II on increased devotion to "the Virgin Mary" has done nothing to alleviate this impression that marriage is unclean, if not actually sinful. The dogma of the perpetual virginity of Mary perpetuates the idea that sexual relations are unclean. The dogma implies that the marriage act, even after the birth of Jesus, would have sullied Mary's reputation as a holy woman.

Small wonder that "the mystery of original sin" and "the perpetual virginity of Mary" are listed among the big problems bothering sincere Catholics. "They could have added papal infallibility, which is widely questioned," observes Catholic author Jacques Duquesne.

Doubtless, the papal decree that has done the most to undermine the faith of Catholics in papal infallibility is the encyclical *Humanae Vitae*. Issued by Paul VI in 1968, this document reaffirmed the official Catholic doctrine prohibiting the use of artificial means of birth control. The *Encyclopædia Britannica* states that "this encyclical provoked adverse reactions [among Catholics] that may be described as the most violent attacks on the authori-

ty of papal teaching in modern times. Similarly, his [Paul VI's] firm stand on the retention of priestly celibacy . . . evoked much harsh criticism."

It is evident that the views of the Roman Catholic Church on marriage and priestly celibacy have caused problems for Catholics. Why has the church created these problems for itself? What led it to impose celibacy on priests and nuns and to insist on the perpetual virginity of Mary?



Celibacy Why Imposed?

CELIBACY, as a requirement for the priesthood, is less and less popular among Catholics. When Pope John Paul II recently visited Switzerland, a poll showed that only 38 percent of Catholics in that country were in favor of compulsory celibacy for priests. In the United States, a 1983 Gallup poll showed that 58 percent of Roman Catholics were in favor of allowing priests to marry.

Yet Pope John Paul II has reaffirmed the law of clerical celibacy, as Paul VI did in his famous encyclical *Sacerdotalis Caelibatus* (Priestly Celibacy), published in 1967. Why does the Vatican continue to impose this unpopular law, even though it appears to be against its own interests? Was priestly celibacy a requirement laid down by Christ and the apostles?

Where Did It Originate?

In the preamble to this 1967 encyclical, Pope Paul VI admitted that "the New Tes-

tament, which preserves the teaching of Christ and the Apostles . . . does not demand celibacy of sacred ministers." Similarly, *The Catholic Encyclopedia* states: "These passages [1 Timothy 3:2, 12; Titus 1:6] seem fatal to any contention that celibacy was made obligatory upon the clergy from the beginning. . . . This freedom of choice seems to have lasted during the whole of what we may call . . . the first period of the Church's legislation, [that is] down to about the time of Constantine and the Council of Nicaea."

So if obligatory celibacy for priests originates neither with Christ nor with his apostles, where did it come from?

"In the old Pagan times celibacy had been held in honor," notes M'Clintock and Strong's *Cyclopædia*. Other reference works indicate that such "old Pagan times" go back to ancient Babylon and Egypt. *The New Encyclopædia Britannica* states:

"The New Testament . . . does not demand celibacy of sacred ministers."—Pope Paul VI

"With the rise of the great civilizations of antiquity, celibacy emerged in various contexts." It was, for instance, connected with the worship of Isis, the Egyptian goddess of fertility, as the *Britannica* notes: "Sexual abstinence was an absolute requirement of those who celebrated her holy mysteries."

In addition, Alexander Hislop observed in his book *The Two Babylons*: "Every scholar knows that when the worship of Cybele, the Babylonian goddess, was introduced into Pagan Rome, it was introduced in its primitive form, with its celibate clergy."

Why, in imitation of ancient pagan religions, did the Catholic Church adopt the requirement of a celibate clergy?

Why It Was Adopted

For one thing, a celibate priesthood gives power to the church authorities. This is because, having no heirs to their priestly function, priests can be replaced only by hierarchical appointment. Even *The Catholic Encyclopedia* admits that Rome has been accused of using celibacy as a device "to ensure the subjection of the clergy to the central authority of the Roman See."

But there is more to it than that. The chart on the following page, outlining the "History of Clerical Celibacy," shows that compulsory celibacy became canon law only in the 12th century C.E. The pope who did much to prepare the way for its adoption was Gregory VII (1073-85). Interestingly, it is said of him that he "saw more clearly than any other the enormous increase of influence which would accrue to a strictly celibate body of clergy."

Yet, in addition to bolstering up the hierarchical system of the Catholic Church, the law of priestly celibacy also conferred on the priesthood an ascendancy over the common people. Georges Duby, one of France's leading historians, said recently of medieval monks and priests that, because of their celibacy, "they were hierarchically above others; they had the right to dominate the rest of society."

Its Effects

Regarding the effects of denying the opportunity of marriage to its priests, *The Catholic Encyclopedia* observes: "We have no wish to deny or to palliate the very low level of morality to which at different periods of the world's history, and in different countries calling themselves Christian, the Catholic priesthood has occasionally sunk." Even today, priestly immorality in many countries has had the effect of downgrading the priesthood in the eyes of honest people.

The law of priestly celibacy, adapted from pagan cults, has also had the effect of downgrading marriage, which is an honorable arrangement instituted by God himself. (Matthew 19:4-6; Genesis 2:21-24; Hebrews 13:4) As *The New Encyclopaedia Britannica* says: "This idea of cultic purity has increased the tendency to devalue marriage and to demonize sex and has led to the demand that priests and monks observe celibacy, which has caused a centuries-long struggle within the church."

Priestly celibacy was adopted with ulterior motives, which may explain why it is being maintained. Yet it actually has benefited neither the Catholic people nor

the clergy. Even the church itself has suffered, since it is generally believed that the current dearth of priests is largely due to this unscriptural law.

Another aspect of the Catholic Church's views of marriage and sex comes to light when examining the dogma of the perpetual virginity of Mary.

History of Clerical Celibacy

First Century: "We do not find in the New Testament any indication of celibacy being made compulsory either upon the Apostles or those whom they ordained."—*The Catholic Encyclopedia*.

Fourth Century: "The oldest evidence of a law on priestly celibacy is Canon 33 of the Council of Elvira [Spain], circa 300 C.E."—*Dictionnaire de Théologie Catholique*.

"The Council of Nicaea [325 C.E.] refused to impose this law [Elvira Canon 33] on the whole Church."—*A Catholic Dictionary*.

Up to Tenth Century: "For centuries this question of the celibacy of the clergy was a subject of constant struggle within the Church. Unnatural crimes abounded among the clergy; their office, in the ninth and tenth centuries, seemed to be held as a license for excess.... Many priests lived openly in wedlock, although the councils were always issuing new orders against them."—M'Clintock and Strong's *Cyclopædia*.

Eleventh Century: "The Synod of Paris (1074), without hesitation, declared that the law of celibacy was intolerable and unreasonable.... In some countries, again, the law remained unobserved, either wholly or in part for a long time. In England the Synod of Winchester in 1076 thought it right to allow, at least to priests already married, in the country and small towns, permission to retain their wives."—*A Manual of Church History* (Catholic), by F. X. Funk.

Twelfth Century: "Finally, in 1123, at the First Lateran Council, an enactment was passed (confirmed more explicitly in the Second Lateran Council, can[on] vii) which, while not in itself very plainly worded, was held

to pronounce the marriages contracted by subdeacons or ecclesiastics of any of the higher orders to be invalid.... *This may be said to mark the victory of the cause of celibacy.*" (Italics ours.)—*The Catholic Encyclopedia*.

Up to Sixteenth Century: "In the Latin Church, the publishing of the law [of celibacy] did not end the controversy. In the 13th and 14th centuries, many specialists in canon law and even bishops called for the adoption of Eastern [Church] legislation that allowed priests to marry. They found a ready argument in the degradation of priestly and even religious morals that were characteristic of the early Middle Ages. The great councils of Constance (1414-18), Basel (1431-39), and Trent (1545-63) witnessed bishops and theologians calling for the abrogation of the law of celibacy."—*Encyclopædia Universalis*.

"At the Council of Trent (1545-63) several bishops, and the emperor Charles V, favored a relaxation of the [celibacy] rule. But the majority of voices decided that God would not withhold the gift of chastity from those that rightly prayed for it, and *the rule of celibacy was thus finally and forever imposed on the ministers of the Roman Catholic Church.*" (Italics ours.)—M'Clintock and Strong's *Cyclopædia*.

Twentieth Century: "In connection with the second Vatican Council (1962-65) clerical celibacy has once again become a cause of ferment in the Roman Church.... Subsequent to the council, the number of priests seeking to leave the priesthood and marry has vastly increased.... Pope Paul VI, however, issued an encyclical, *Sacerdotalis Caelibatus* (June 23, 1967), reaffirming the traditional law on celibacy."—*Encyclopædia Britannica*.

"The Perpetual Virginity of Mary"

Its Impact

SOME readers may be surprised, even shocked, to see the subject of "the perpetual virginity of Mary" considered under the general theme "The Catholic Church—Its View of Sex." Our purpose is certainly not to offend Catholics nor to denigrate Mary. In fact, we have the greatest respect for her as one of Christ's faithful disciples.

Moreover, we thoroughly agree that Mary was a virgin when she gave birth to Jesus. (Matthew 1:18-23) The question is, Did Mary remain a virgin throughout her earthly life?

Many Catholics Are in Doubt

Catholic reference works reveal that Catholic scholars have had doubts that Mary remained a virgin all her life. The Bible itself several times mentions Jesus' "brothers" and "sisters." (Matthew 12: 46, 47; 13:55, 56; Mark 6:3; Luke 8:19, 20; John 2:12; 7:3, 5) Some Catholics, however, claim that these words designate "relatives," such as cousins. Is this true?

The New Catholic Encyclopedia states: "The Greek words . . . that are used to designate the relationship between Jesus and these relatives have the meaning of full blood brother and sister in the Greek-speaking world of the Evangelist's time and would naturally be taken by his Greek reader in this sense." Also, *The New American Bible*, a Catholic translation, admits in a footnote on Mark 6:1-6, where Jesus' brothers and sisters are mentioned: "The question of meaning here would not have

arisen but for the faith of the church in Mary's perpetual virginity."

The Bible clearly shows that Mary had other children besides Jesus; the Catholic Church's teaching that she did not is what has created a controversy. Catholic author J. Gilles, who thoroughly examined all the Scriptural evidence on the subject, concluded: "Briefly and in measured language, out of faithfulness to the [Catholic] Church, I believe I can sum up my investigation as follows. . . . The FOUR CANONICAL GOSPELS provide concordant evidence . . . that Jesus had real brothers and sisters in his family. . . . In the face of this coherent block of proof the traditional position [of the Catholic Church] seems vulnerable and fragile."

So if the Bible provides no proof of "the perpetual virginity of Mary," where did this belief originate?

Origins of the Belief

"In several ancient religions," observes Jesuit priest Ignace de la Potterie, "virginity had a sacral value. Certain goddesses (Anath, Artemis, Athena) were called virgins." Yet, what does that have to do with Mary? Catholic priest Andrew Greeley explains: "The Mary symbol links Christianity directly to the ancient religions of mother goddesses."

Professor of church history Ernst W. Benz comments on this link with ancient pagan religions. "Veneration of the mother of God," he wrote in *The New Encyclopæ-*



"The FOUR CANONICAL GOSPELS provide concordant evidence . . . that Jesus had real brothers and sisters."

—Catholic author

dia Britannica, "received its impetus when the Christian Church became the imperial church under Constantine and the pagan masses streamed into the church. . . . [The peoples'] piety and religious consciousness had been formed for millennia through the cult of the 'great mother' goddess and the 'divine virgin,' a development that led all the way from the old popular religions of Babylonia and Assyria . . . Despite the unfavourable presuppositions in the tradition

of the Gospels, cultic veneration of the divine virgin and mother found within the Christian Church a new possibility of expression in the worship of Mary."

But what moved the Roman Church to adapt and adopt the "great mother" goddess and "divine virgin" cult? For one thing, the "pagan masses" coming into the church wanted it; they felt at home in a church that venerated a 'great virgin mother.' "In Egypt," Professor Benz notes,

"Mary was, at an early point, already worshipped under the title of the bearer of God (Theotokos)." So the "divine virgin" cult was adopted to accommodate the "pagan masses" that were streaming into the church.

Impetus to the veneration of Mary was provided at the first ecumenical Council of Nicaea in 325 C.E. How so? Well, the Trinity doctrine was there made an official Catholic teaching, the Nicene Creed declaring Jesus to be God. This supposedly made Mary the "bearer of God," or "mother of God." And as Professor Benz said: "The Council of Ephesus (431) raised this designation to a dogmatic standard." The next step was to make Mary a "perpetual virgin." This occurred when the title "eternal Virgin" was given to Mary at the second Council of Constantinople in 553 C.E.

'The Mary symbol links Christianity with ancient religions of mother goddesses'



Consequences of Teachings

Yale Professor J. J. Pelikan writes: "The growth of the ascetic ideal in the church helped to give support to this view of Mary as the model of the lifelong virgin." This "ascetic ideal" was also apparent in the development of monasticism and celibacy in the centuries following Nicaea. Hundreds of thousands of Catholic priests, monks, and nuns have striven—some successfully, many unsuccessfully—to lead continent lives because their church has taught that sex and holiness are incompatible.

Significantly, the leading church authority, "Saint" Augustine, "identified original sin with sexual concupiscence." True, most modern-day Catholic theologians no longer subscribe to this interpretation. But does not the doctrine of the perpetual virginity of Mary and the law on compulsory celibacy for priests create the impression that sex is unclean? And has not the Vatican's reiterated policy on divorce and birth control compounded the problem for millions of Catholics?

More important, what is the Bible's view on matters of sex?

The Bible's View on Matters of Sex

FOR many sincere Catholics, the very thought of Mary's having sexual intercourse with her husband Joseph is inconceivable and shocking. This is because the entire attitude of their church toward sex has given the average Catholic the impression that a person cannot really be holy if he or she has intercourse, even within wedlock. But are marriage and holiness incompatible? What does the Bible show?

In ancient Israel, God required priests to be holy, and yet marriage was proper for them. (Leviticus 21:6, 7, 13) In the Christian congregation, Peter—whom the Catholic Church views as the first pope—was a married man, as were the majority of the apostles. (Matthew 8:14; 1 Corinthians 9:5) Within the Christian congregation, an "overseer" ("bishop," in the Catholic *Douay Version*) could be the "husband of one wife." (1 Timothy 3:2) And "older men" ("priests," in *Douay*) could be married. (Titus 1:5-8) In fact, all faithful first-century Christians

were "God's chosen ones, holy and loved," and many of them were married. (Colossians 3:12, 18-21) It would be pointless to claim that these were sexless marriages, for that would be in direct contradiction to the apostolic counsel given in 1 Corinthians 7: 2-5.

Thus, according to the Bible, marriage and holiness are not incompatible. Would God speak of himself as the 'husband' of Israel, and would the Bible speak of Christ as the "husband" of the Christian congregation, if there were anything unclean about the marriage relationship?—Isaiah 54:5; 62:4, 5; Ephesians 5:23-32; Revelation 19:7; 21:2, 9.

We need, therefore, have no compunction about accepting the plain Bible testimony that, after the virgin birth of Jesus, Joseph led a normal married life with Mary, giving her other sons and daughters. These were Jesus' fleshly half brothers and sisters, Mary giving birth to each one of them. (Mat-

thew 1:24, 25; Mark 3:31) This in no way prevents us from loving and respecting Mary as a holy woman, any more than Sarah's giving birth to Isaac prevented Peter from citing her among "holy women" of antiquity.—1 Peter 3:5-7; Hebrews 11: 11, 12.

Divorce and Contraception

The Catholic Church is right in discouraging divorce and in condemning abortion. But does it have the backing of the Bible when it rejects divorce for any reason and maintains that "each and every marriage act must remain open to the transmission of life"?—*Humanae Vitae*.

Originally, Jehovah God instituted marriage as a permanent bond between one man and one woman. (Genesis 2:22-24) Jesus restored this standard within the Christian congregation, stating, "What God has yoked together let no man put apart." However, he added, "Whoever divorces his wife, except on the ground of fornication, and marries another commits adultery."—Matthew 19: 4-6, 9; 5:32.

The Bible, therefore, says that sexual infidelity is a valid basis for divorce, in fact, the only valid basis. The Catholic Church has done nothing good for itself, or for the millions of its members, by being more exacting on this matter than the Scriptures. Commenting on the results of this policy throughout history, *The New Encyclopaedia Britannica* states: "Rigid monogamy was not unrelated to the common and widely tolerated practice of adultery, which the Roman Catholic Church regarded as more tolerable than divorce."

As to birth control, the leading Catholic theologian, Augustine (354-430 C.E.), considered sexual intercourse, even within marriage, to be sinful if anything was done to prevent conception. This is still more or less the viewpoint of the Catholic Church, as outlined by Pope Paul VI in his 1968 encyc-

lical *Humanae Vitae* and confirmed by Pope John Paul II. It is a policy that has caused much distress among sincere Catholics. Yet the Bible does not forbid contraception; it says nothing on the matter.

On the other hand, the Bible disapproves of abortion, as shown by the record at Exodus 20:13 and 21:22, 23. This would include birth-control methods that operate after conception has taken place, since this is tantamount to killing an individual whose development has already begun. Beyond this, the Bible leaves the matter of family planning to the conscience of each Christian couple. In continuing to enforce its stand on birth control, Rome has gone "beyond what is set down" in God's Word.—1 Corinthians 4:6, *The New American Bible*, a Catholic translation.

The Bible and Celibacy

Although, as we have seen earlier, *compulsory* celibacy is not a Biblical requirement, the Bible does speak of *voluntary* singleness. Jesus explained: "Some men are incapable of sexual activity from birth; some have been deliberately made so; and some there are who have freely renounced sex for the sake of God's reign. Let him accept this teaching who can." (Matthew 19:12, NAB) Thus Jesus did not say that celibacy was obligatory; in fact, as we have also noted earlier, some of his apostles were married men.—Mark 1:29, 30; 1 Corinthians 9:5.

The apostle Paul also speaks of voluntary celibacy for both Christian men and Christian women, and explains: "I have no desire to place restrictions on you, but I do want to promote what is good, what will help you to devote yourselves entirely to the Lord." (1 Corinthians 7:8, 35, 38, 40, NAB) It is quite plain that, from the Bible's viewpoint, singleness is a gift that some Christians, of both sexes, can develop in order to devote themselves more fully and freely to God's

service. No vow need be involved, nor must there be any compulsion.—1 Corinthians 7:28, 36.

On the contrary, compulsory celibacy would be a sign of apostasy, as we read in 1 Timothy 4:1-3: "The Spirit distinctly says that in later times some will turn away from the faith and will heed deceitful spirits and things taught by demons through plausible liars—men with seared consciences who forbid marriage."—NAB.

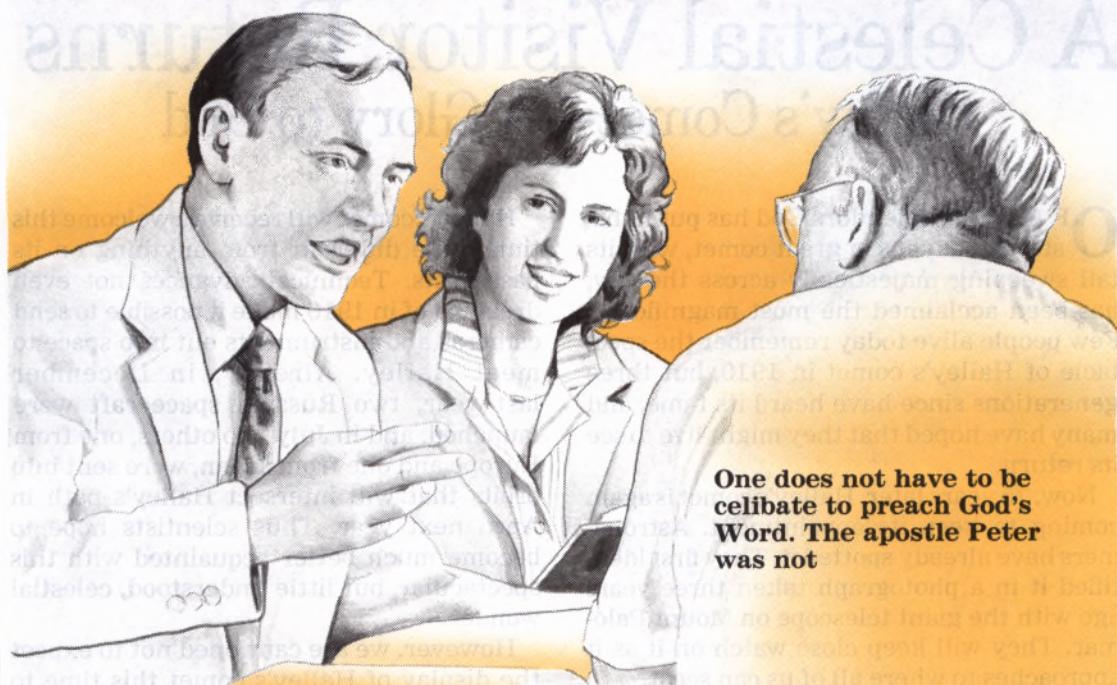
Hold to the Bible's View

Research in Catholic reference works shows that Catholic doctrine and policy in matters involving sex are deeply rooted in pagan mystery religions. The result has been to downgrade marriage, create a guilt complex in sexual matters, and impose hardship on many sincere Catholics.

On the other hand, the Bible shows that marriage is honorable and that sexual intercourse within the marriage arrangement

does not prevent a Christian man or a Christian woman from being holy in God's sight. It also reveals that voluntary singleness can be spiritually rewarding if one's time and energy are used in God's service.

It is hoped that this brief review of matters related to sex may be of help to thinking Catholics and all others who have been perturbed, and who have even suffered, because of stringent teachings that hark back to the Babylonish mysteries of antiquity. As so many authorities testify, these are not Biblical teachings. If the doctrine of any religious body is not in harmony with the Scriptures, God-fearing persons need have no qualms about disagreeing therewith. All such persons are encouraged to examine church doctrine in the light of God's Word, having in mind Jesus' assurance: "If you live according to my teaching, you are truly my disciples; then you will know the truth, and the truth will set you free."—John 8:31, 32, NAB.



One does not have to be celibate to preach God's Word. The apostle Peter was not



A Celestial Visitor Returns

Halley's Comet—A Glory to God

OF ALL the splendors God has put in his starry heavens, a great comet, with its tail sweeping majestically across the sky, has been acclaimed the most magnificent. Few people alive today remember the spectacle of Halley's comet in 1910, but three generations since have heard its fame, and many have hoped that they might live to see its return.

Now, 75 years later, Halley's comet is again coming to keep its appointment. Astronomers have already spotted it. They first identified it in a photograph taken three years ago with the giant telescope on Mount Palomar. They will keep close watch on it as it approaches to where all of us can see it.

Halley's comet will receive a welcome this time quite different from anything on its past visits. Technical advances not even dreamed of in 1910 make it possible to send cameras and instruments out into space to meet Halley. Already, in December last year, two Russian spacecraft were launched, and in July two others, one from Europe and one from Japan, were sent into orbits that will intersect Halley's path in April next year. Thus scientists hope to become much better acquainted with this spectacular, but little understood, celestial wonder.

However, we are cautioned not to expect the display of Halley's comet this time to

equal the one in 1910. Some astronomers even say that this appearance may be the most disappointing in 2,000 years. Why should one appearance differ from another? It depends mostly on where the earth is in its orbit when the comet goes by. Of course, the closer we are, the better our view of the comet. Also, the larger the angle between the comet and the sun, the longer it will be in the night sky. Now it happens that on February 9, 1986, when the comet makes its nearest approach to the sun, called perihelion, and is at the peak of its performance, the earth will be almost exactly on the opposite side of the sun. That means we will be separated by the maximum distance, nearly 150,000,000 miles,* while the comet is directly behind the sun! That is the worst possible lineup.

But the comet will be inside the earth's orbit for several months, passing closer to us both before and after perihelion. On its way in, the comet will be in a good position for those living in the northern hemisphere, but then it will not be very bright. It will be brighter and will pass closer to the earth on the way out. Then it will be high in the southern skies but not so well placed for northern observers.

Why Is Halley's Comet the Most Famous?

Isn't this just one of many comets that have adorned the skies down through the years? Comets are really not rare. There are usually at least one or two in the sky at any given time, and a dozen or more may be seen in a year. But most of these are distant, visible only with a telescope, and they look like faint, somewhat fuzzy stars. Only an occasional one comes close enough to be seen with the naked eye. Seldom does a really spectacular comet appear, with a long, diaphanous tail spread gracefully

across the sky. There were half a dozen such comets in the 19th century that rivaled or surpassed Halley's in brilliance.

Yet, when the average person hears the word "comet," the name Halley immediately comes to mind. Why? Halley's comet in 1910 was truly the finest in our century. There have been a few bright comets since then, but not one has matched Halley's glory.

Aside from its resplendence, however, its unique claim to fame is that it was the first comet recognized to be a periodic visitor, returning on a regular schedule. It fell to the lot of Edmond Halley, an English astronomer, to make this surprising discovery. Halley (his name rhymes with *alley*, not with *daily*) was a colleague of Isaac Newton, and he used Newton's new theories of gravitation and elliptical planetary orbits to calculate the orbits of comets previously observed. Halley noted that the paths of two historic comets, in the years 1531 and 1607, and a third that he himself had seen in 1682, were very nearly alike. Was this just a coincidence? No, he conjectured, they were all the same comet, returning every three quarters of a century. He predicted that the comet would be seen again about the year 1758.

Halley did not live to see it—he died in 1742 at the age of 86—but true to his prediction, the comet appeared on the world stage in 1758. It was first sighted by a German peasant in December 1758, and it reached its perihelion in March of 1759. It was promptly given the name Halley's comet, and so it has been known to this day.

Thus it was established that Halley's comet is a bona fide member of the solar system. Was it possible that it could be identified with other comets seen in earlier times? Surely so prominent an object would not have escaped notice on earlier visits. Halley himself noted that the comet of 1456 must have been the same. Delving through his-

* 1 mile equals 1.6 km.

torical records, scholars have found that the comet had been sighted on every one of 23 revolutions before that, all the way back to the year 240 B.C.E., when it was reported by Chinese astronomers. The coming appearance, then, will be the 30th of an unbroken series of sightings, every 75 to 78 years for over two millenniums.

A Wanderer in the Solar System

Halley's comet rides in a high orbit. It is not at all circular but is a long narrow ellipse. It stretches out across the orbits of all the planets from Venus to Neptune. At perihelion it is only 54,000,000 miles from the sun, but at its most distant point, it is more than 3 billion miles away.

At about the distance of Jupiter, the comet comes within range of telescopes, and after it crosses the orbit of Mars, it reaches naked-eye visibility. About this time the tail begins to form. It grows larger as the comet approaches the sun. It always points away from the sun, blown by a solar wind and by solar radiation.

Tips for Comet Watchers

When can you expect to see the comet, and where should you look for it? Whether you can see it and how bright it will appear depend on many factors. Look before dawn or after the evening twilight has faded, when it does not appear too close to the sun. The darkness of the sky is an important factor. Bright city lights will spoil the view. Where you live, can you see the Milky Way distinctly on a clear night? If not, find a place where you can if you expect to see the comet at its best.

Bright moonlight overwhelms the pale light of the comet. It will best be seen when the moon is below the horizon or in a phase within a few days of new moon. Also, the comet should be high enough in the sky to be out of the haze and dust. Its elevation will depend on what latitude you are in, north or south of the equator. Finally, what will the

weather be like? A cloudy sky will frustrate your best plans.

Taking everything into account, when should you plan to look? The comet will become visible to the naked eye in December. It will be easier to see in the northern hemisphere. It will be in the evening sky, high in the southwest. After the full moon is out of the sky the first of December, for two weeks the skies will be dark. Don't expect a brilliant show at this stage. Look for a faint, fuzzy light that moves westward from night to night.

By the end of December, the full moon will be out of the way again. By then the comet will be brighter, and the tail should be visible, but it will be moving closer to the western horizon. In the latter part of January, it will sink into the evening twilight and be lost to view on its way to rendezvous with the sun.

Do You Have Binoculars?

Binoculars will greatly enhance your view and appreciation of the comet, especially during its approach phase. For the nonspecialist they are better than a telescope because of their wider field of view. With binoculars, you might be able to catch sight of the comet before it reaches naked-eye visibility. Of course, you must know where to look. A good chance to find it will come November 15 to 17, when it will be passing just south of the famed Pleiades.* It will be nearest on the 16th, close enough to be seen in the same binocular field of view with the Pleiades. Look for a fuzzy star, and note its position among other nearby stars. Then look again an hour or two later and see whether it has moved westwardly. If it has, you will know that you are seeing the long-awaited Halley's comet.

After perihelion, Halley's comet should reach its greatest length and brightness

* If you are not familiar with the Pleiades, consult a star guidebook in your local library or refer to the July 8, 1977, issue of *Awake!*

early in April. Before that, in March, it may be seen rising, tail first, in the predawn sky. For viewers in northern countries, Japan, the United States, and Europe, it will be disappointingly low in the southern sky. But watchers in South America, southern Africa, and Australia will have a splendid view. The first week in April, Halley should be at its best, high in the sky with its tail arching across the zenith. The moon will be in its last quarter, and as its crescent shrinks toward the new moon on the 9th, the ever darker sky will provide the best background for enjoying all the splendor of our celestial visitor.

What Makes a Comet Behave as It Does?

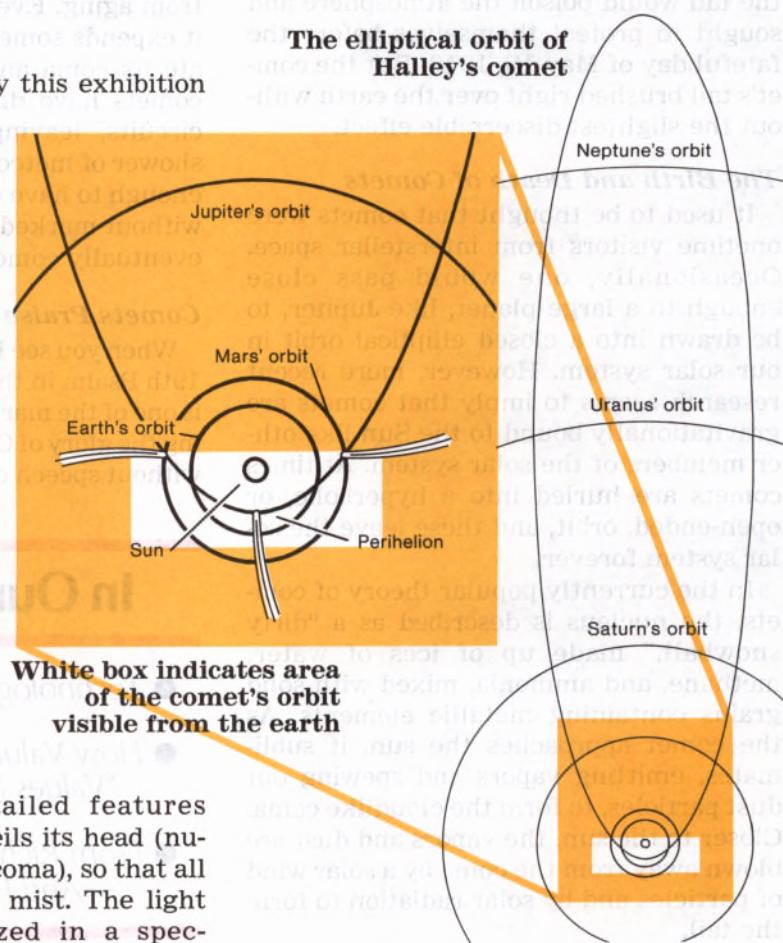
The interest aroused by this exhibition in the sky will naturally suggest many questions about the mysterious object, so different from the stars and the planets. What is a comet? Where does it come from? What does it look like up close? What is its tail made of? Why does it undergo such remarkable changes as it comes close to the sun and then backs away?

These questions have fascinated generations of astronomers, but even now the answers remain most uncertain and speculative. When a comet comes close enough that we might hope to see some detailed features through a telescope, it veils its head (nucleus) in a diffuse cloud (coma), so that all we see is a fuzzy ball of mist. The light from the coma, analyzed in a spec-

troscope, tells us some of the things it is made of: water vapor, ammonia, methane, cyanogen. Also, atoms of common metals are revealed: iron, nickel, manganese, calcium, magnesium, sodium, and so on. All of these are driven out of the coma by the sun's radiation to form the tail. The tail shines, as does the coma, by fluorescence and reflection of sunlight.

The size of comets is tremendous. The coma is often larger than the planets, sometimes even as large as the sun. The tails of comets are tens of millions of miles long; some have been over a hundred million miles, long enough to reach

The elliptical orbit of Halley's comet



from the earth to the sun. The solid nucleus, however, is tiny in comparison. It is probably no more than a few miles across.

In keeping with the small nucleus, the bulk of the entire comet is billions of times less massive than the earth. The tail of a comet so great that it seems to fill the sky has so little substance that stars shine right through it. It is more rarefied than the best vacuum man can make. Realizing this has allayed earlier fears that the earth's passage through a comet's tail might be disastrous. Such a scare spread when Halley's comet was last here. People panicked at the thought that the gases in the tail would poison the atmosphere and sought to protect themselves before the fateful day of May 18, 1910. But the comet's tail brushed right over the earth without the slightest discernible effect.

The Birth and Death of Comets

It used to be thought that comets were onetime visitors from interstellar space. Occasionally, one would pass close enough to a large planet, like Jupiter, to be drawn into a closed elliptical orbit in our solar system. However, more recent research seems to imply that comets are gravitationally bound to the Sun like other members of the solar system. At times comets are hurled into a hyperbolic, or open-ended, orbit, and these leave the solar system forever.

In the currently popular theory of comets, the nucleus is described as a "dirty snowball," made up of ices of water, methane, and ammonia, mixed with solid grains containing metallic elements. As the comet approaches the sun, it sublimates, emitting vapors and spewing out dust particles, to form the cloudlike coma. Closer to the sun, the vapors and dust are blown away from the coma by a solar wind of particles and by solar radiation to form the tail.

During this passage of Halley, astronomers hope to learn how nearly correct this picture is. Maneuvering space probes up beside the comet, they will take close-up pictures and measurements. Thus they expect to clear up some of the mysteries about comets.

Comets are not eternal. They are not even dependable for keeping time. A comet's schedule is subject to change because of the repeated pull of planets near its path. In fact, a close passage may sling it permanently out of the system, as was done deliberately with the *Voyager* space vehicles. Also, a periodic comet suffers from aging. Every time it passes the sun, it expends some of its substance to recreate its coma and tail. Some short-period comets have disappeared after repeated circuits, leaving nothing behind but a shower of meteors. Halley's comet is large enough to have outlived dozens of circuits without marked loss of luster, but it must eventually come to an end.

Comets Praise Their Creator

When you see Halley's comet, think of the 19th Psalm in the Bible. Surely, this comet is one of the marvels of the heavens, declaring the glory of God, even in silent splendor, without speech or words.

In Our Next Issue

- Technology—Curse or Blessing?
 - How Valuable Is "Values Education"?
 - From Riches to Rags —And Happiness
-

Young People Ask...

Staying Chaste —Is It Really Best?

IN TODAY'S world, chastity has all but disappeared. "It is the exceptional young person who has not had sexual intercourse while still a teenager," was a conclusion reached by an authoritative 1981 report by The Alan Guttmacher Institute. "Eight in 10 males and seven in 10 females report having had intercourse while in their teens." What made Esther, discussed in the box below, different?

She was convinced that obeying Bible laws on morality was best. The Bible clearly states: "Now the body is not for fornication [premarital sex]... *Flee from fornication.*" (1 Corinthians 6:13, 18) Yet, most young people ignore Bible morality. However, are there definite advantages to moral chastity?

A Physical Protection

Dr. Richard Lee, writing in the *Yale Journal of Biology and Medicine*, urged his fel-

low physicians: "We boast to our young people about our great breakthroughs in preventing pregnancy and treating venereal disease disregarding the most reliable and specific, the least expensive and toxic, preventative of both gestational and venereal distress—the ancient, honorable, and even healthy state of virginity." Clearly aware of the physical dangers of immoral sex, he concluded his article: "There is still a place for physicians to advise chastity."

Of course, not all premarital sex causes pregnancy or a sexually transmitted disease. But the benefits of chastity go much deeper.

Peace and Self-Respect

A young maiden mentioned in the Bible remained chaste despite intense love for her boyfriend. Rather than her morals resembling a swinging door that 'opened up' under immoral pressure, she could proudly

Because the dull ache in her abdomen persisted, Esther consulted a doctor. After carefully examining her chart and asking a few questions, the doctor matter-of-factly inquired: "What method of contraception are you using?"

Doubled up with pain from a problem that proved to be nothing serious, Esther moaned: "I'm not using any."

"What!" exclaimed the doctor, "Do you want to get pregnant?"

"No," was this single woman's reply.

"How do you expect not to get pregnant if you're not using anything?" retorted the irritated doctor.

"Because I'm not having sex!" responded Esther.

The doctor stared at her in disbelief and glanced again at her chart. "And you're 23 years old?" he blurted. "I don't mean to be offensive, but this is unbelievable. Kids come in here 13 years old, and they are no longer virgins. You are a remarkable person. I see very few young girls who are virgins."

say: "I am a *wall*, and my breasts are like towers." Yes, morally she stood like the unscalable wall of a fortress with inaccessible towers. She deserved to be called "the pure one." And the benefits? The maiden said of her prospective husband, "I have become in his eyes like her that is *finding peace*." Her own peace of mind contributed to the contentment between the two of them.—Song of Solomon 6:9, 10; 8:9, 10.

Esther, mentioned previously, had the same inner peace and self-esteem. She said: "I felt good about myself. Even when workmates would ridicule me, I viewed my virginity like a diamond, valuable because it is so rare." Additionally, chaste youths are not plagued by a guilty conscience. "There is nothing nicer than to have a good conscience toward Jehovah God," stated Stefan, a 19-year-old Christian.

'But how can a couple get to know each other well if they don't have sex?' argue some youths.

Builds Lasting Intimacy

Though sex has power, it alone cannot forge a permanent relationship. When sex is delayed till marriage, the couple concentrates on the personal and social qualities, rather than on sexual satisfaction. Focusing on sexual satisfaction can lead to serious problems.

For instance, after two painful breakups, Ann admitted: "I learned from experience that at times you can get too close physically too soon." Thus, when she and her future husband began to date, they were very



Chastity protects you from severe physical and emotional tragedies

careful to avoid becoming too intimate physically. You see, under the enrapturing influence of sexual intimacies, a couple may gloss over serious differences that resurface *after marriage*.

Those who are chaste can avoid such deception. Explains Ann, who has now been happily married for four years: "While courting, we spent our time working out problems and discussing our goals in life. I got to know what type of *person* I was marrying. After marriage, there were only pleasant surprises. Most couples really don't have that much time to spend together while courting. So, if they're constantly romancing and kissing, they can't talk about serious matters or work out differences."

Was it hard for them to control their emotions? "Yes, it was!" confessed Ann. "I am just naturally an affectionate person, and Tim loved it. But we talked about the dangers and helped each other. We both wanted very much to please God and not spoil our upcoming marriage." However, many young people fear that

not having sex will spoil their marriage. Will it?

A Happier Marriage

Chastity contributes toward a successful marriage. (See box.) The reason is that it demands restraint, self-control. You learn to sacrifice the satisfying of an immediate pleasure to achieve a more important goal. Gaining the approval of God becomes a priority, and you struggle to avoid giving in to your desires for physical intimacy. (1 Corinthians 9:27) This unselfish concern for another's welfare is what builds a happy marriage and ultimately leads to sexual satisfaction.

Though many marriages have serious sexual problems, one does not prevent such by engaging in premarital sex. According to extensive research by sociologist Seymour Fisher, the factors helping a woman

to respond sexually are not physical but include how she feels about her husband. The vital factors are her having "feelings of intimacy, closeness, and dependability," the husband's "ability to identify with his wife, and . . . how much confidence she had in him." But in premarital sex, dependency and confidence are often undermined by uncontrolled passion. The emphasis is on the *physical* aspects of sex and self-gratification. Once such selfish patterns are formed, they are hard to break and they wreak havoc after marriage! In marriage, the focus must be on giving, '*rendering one's sexual due*,' rather than '*getting*.' —1 Corinthians 7:3, 4.

Interestingly, in a study of 177 married women, *three fourths* of those who engaged in premarital sex reported sexual difficulties during the first two weeks of marriage. All those who reported *long-term* sexual difficulties "had histories of premarital intercourse." Additionally, research has shown that those engaging in premarital sex are *twice* as likely to commit adultery after marriage! How true are the Bible's words: "Fornication . . . take[s] away good motive."—Hosea 4:11.

'You will reap what you sow.' (Galatians 6:7, 8) Sow passion and reap a bumper crop of doubts and insecurities. But sow self-control and reap a harvest of fidelity and security. Esther, mentioned at the beginning, has since been happily married for five years. Her husband Jaye exclaims: "It's an indescribable joy to come home to my wife and know that we belong only to each other. Nothing can replace this feeling of confidence."

No worries about a sexually transmitted disease or an illegitimate pregnancy. Peace of mind knowing you are pleasing to God. A meaningful courtship leading to a satisfying marital adjustment. All of these and more are sound reasons for concluding: *Staying chaste is really best!*

Chastity Helps Marriage

"This research carried the investigation one step further in an attempt to relate premarital sex experience to total adjustment in marriage as measured by (1) marital happiness, (2) general marital satisfaction, (3) love, and (4) marriage permanence. The findings in general agree with those of [other researchers] that virginity prior to marriage is most favorable to total marriage success."—*Making the Most of Marriage*, by Paul H. Landis.

"A significantly larger per cent of divorced than happily married men reported premarital intercourse."—*Predicting Adjustment in Marriage: A Comparison of a Divorced and a Happily Married Group*, by Harvey J. Locke.

"Premarital chastity can strengthen the respect and love between two sweethearts that lead to the full expression of both personalities within the marriage. . . . Saving sex for marriage gives you something very special to share with one another, which no one else can have."—*Why Wait Till Marriage?* by Dr. Evelyn M. Duvall.

God —Does He Care About Me?

"I CAN'T take it anymore!" she cried. "If only I had the nerve to kill myself, I could end the drudgery of life in this doomed world."

Jill could "see no purpose in living in a world of disappointment, hatred, and violence." She thought relief would come from drugs, alcohol, and music. But it didn't. When divorce sent her family members in five different directions, she asked: "Where was God all this time?"

When bad things happen to you, do similar questions run through your mind? Frankly, where is God in our tragedy-plagued 20th century? It is a question that must be faced by everyone who wishes to believe in a God of love. Does God really care what

happens to people? Does he really care about you?

God Does Care

Look around you. If God does not care about people, why did he put forth the effort to create delicious foods, cuddly animals that warm the heart, and awesome natural scenery? Even ugly urban slums are brightened by beautiful sunsets. As the apostle Paul told the ancient Lycaonians, God "did not leave you without evidence of himself in the good things he does for you: he sends you rain from heaven, he makes your crops grow when they should, he gives you food and makes you happy."—Acts 14:17, *The Jerusalem Bible*.



Why did God provide these things if he doesn't care?

Yet it must be conceded that beautiful sunsets will not change an unhappy family into a happy one. Frolicking animals do not remove the pain caused by the loss of loved ones. Tasty fruits cannot refresh hearts emptied by despair. If God really cares about people, why isn't he doing something about the causes of suffering today?

The answer is that he *is* doing something

about it, and *you* can benefit. Consider the following evidence that God does care about you.

How We Know That He Cares

□ *God has purposed a wonderful paradise to replace the present suffering system of things.* The Bible clearly describes an earth where "death will be no more, neither will mourning nor outcry nor pain be anymore." (Revelation 21:4) Who will live under these conditions? "The meek ones themselves will possess the earth, and they will indeed find their exquisite delight in the abundance of peace." (Psalm 37:11) Why not open your Bible to Isaiah chapters 11, 35, and 65 to read more about this Paradise?

□ *To make it possible for YOU to live in that Paradise, God has provided his beloved, only-begotten Son.* "For God loved the world so much that he gave his only-begotten Son, in order that everyone exercising faith in him might not be destroyed but have everlasting life." (John 3:16) Thanks to this arrangement, even the dead can benefit from that Paradise earth by means of a resurrection to life. —John 5:28-30.

□ *So that YOU can take advantage of God's provision, he has arranged to have the good news of his Kingdom preached over all the earth.* "This good news of the kingdom will be preached in all the inhabited earth for a witness to all the nations; and then the end will come." (Matthew 24:14) Under the direction of his Son, God has commissioned his people to "make disciples of people of all the nations."—Matthew 28:18-20.

But in order to benefit from God's concern for you, there is something else that *you* must do. You must show God that *you* care about him.

Do You Care About God?

Does that sound strange? It shouldn't. After all, in any relationship between two people, it is not reasonable to expect just one

of them to do all the caring, is it? The same is true of a relationship between a person and Jehovah God. Time and again, his Word makes this clear. "Draw close to God, and he will draw close to you," urges James 4:8.

Pointing to what God expects from his people, Deuteronomy 30:19, 20 says: "I have put life and death before you, the blessing and the malediction; and you must choose life in order that you may keep alive, you and your offspring, by loving Jehovah your God, by listening to his voice and by sticking to him." How tragic if we missed out on the everlasting benefits of a relationship with God because of a lack of proper concern on our part!

How can I be sure that I care about God, that it's really from my heart? you may wonder. Suppose God were to ask you to take an unpopular stand in his behalf or to perform a socially unpopular service to him, such as public preaching. How would you respond? Would you be willing to show by your deeds that you care about God and his Son? Jesus warned: "For whoever becomes ashamed of me and my words in this adulterous and sinful generation, the Son of man will also be ashamed of him when he arrives in the glory of his Father with the holy angels."—Mark 8:38.

On the other hand, Jehovah and Jesus appreciate very much those individuals who show concern for them and their true servants today. Jesus said: "If anyone gives so much as a cup of cold water to one of these little ones, because he is a disciple of mine, I tell you this: that man will assuredly not go unrewarded."—Matthew 10:41, 42, *The New English Bible*.

Yes, God does care about you, about right-hearted people all over the earth today, and even about those in the grave. But caring is a two-way street. Do *you* care about God? If so, and if you are willing to show that you care, an everlasting future can be yours.

Paper —That Versatile Product!

IMAGINE something so versatile that you can drink out of it, wrap things in it, blow your nose on it, write on it, wear it, make furniture out of it, and even eat off it! Impossible? Well, such a product already exists and has been around for a very long time.

This versatile product is paper. Perhaps ordinary paper somehow lacks the glamor of computerized gadgetry. Nevertheless, paper has had quite a profound impact on your life. Before the advent of paper, writing was a cumbersome process of chiseling letters on stone and engraving words on clay tablets. Knowledge was thus reserved for a privileged few. Paper helped change all of that.

It all began when the Egyptians found a clever way to use a water reed named papyrus. They would cut the stalk into thin strips and line them up slightly overlapping. Another layer of strips was then placed at right angles to the first and glued on top. Then the whole thing was hammered flat and left in the sun to dry. As a finishing touch, it was polished to give it a relatively smooth surface for writing.

Apparently, papyrus was used as far back as the days of the Biblical patriarch Abraham. And though manufacturing it back then was not easy, it was still superior to chiseling away on stone. So it became an important medium of communication in ancient times. In fact, early copies of the Bible were made on papyrus. True, other writing materials, such as vellum, usually made from calfskin, also came into use.

But papyrus had made its mark. From it would come the English word "paper."

From Rags to Tree Trunks

Paper from old rags? It might sound strange, but that was the next step forward for paper. Old rags, you see, contained cellulose—the main ingredient of paper. And the Chinese, about 105 C.E., figured out how to manufacture paper from a pulpy mixture of old rags, tree bark, hemp, and even fishing nets!

The Chinese art of papermaking took time to spread abroad, but by the 12th century it reached Europe. So when in the 15th century Gutenberg began to print his famous Bible, paper was already on the scene, a willing servant ready for the job. Paper thus gave impetus to the rapid spread of knowledge during the Renaissance. But dramatic discoveries in the manufacture of paper were still to come.

As the demand for paper grew, the supply of rags ran short. Men then began toying with the idea of using tree trunks as the prime ingredient. The problem, though, was finding an easy way to reduce wood to pulp. In the 19th century, a chemical process was discovered that could do the job. Inventors came up with a machine that could make paper in continuous rolls. The scene was set for the modern paper revolution—mass production!

Papermaking Today

Though refined by modern technology, paper manufacturing has changed little. It begins either in natural forests or in groves

of trees grown specifically for papermaking. (One South African paper manufacturer plants over 12 million saplings a year.) The trees are felled and ground into chips that are then cooked into a pulpy mass. This pulp is refined and bleached and sent to a papermaking machine called a fourdrinier.

How does it work? First the pulp enters the *forming section* of the machine, via a moving belt of fine wire-mesh. The wood fibers tend to align themselves in the direction of travel, which accounts for the grain of the paper. Too, the belt is shaken sideways to mesh the fibers. This gives the paper strength. Water drains through this mesh belt by gravity and with the help of vacuum boxes below.

Now the pulp enters the *press section* of the machine. At this point the pulp is still 80-85 percent water by weight, and a series of rollers, along with suction, removes more water and compacts the paper web. On to the *drying section*. Here the web passes over steam-heated cylinders, which remove yet more water by evaporation. Finished? Not necessarily. For some paper the dried web passes through another set of rollers that iron out any unevenness and give the paper a smoother surface. The finished product is now ready to be wound onto a reel and trimmed to its desired size.

You may wonder, though, how process-control checks are made in such a high-speed operation. Well, modern technology has developed quite a system of on-line process-control systems. Sensing devices continuously scan the moving web. Beta rays may be used to check basis weight,



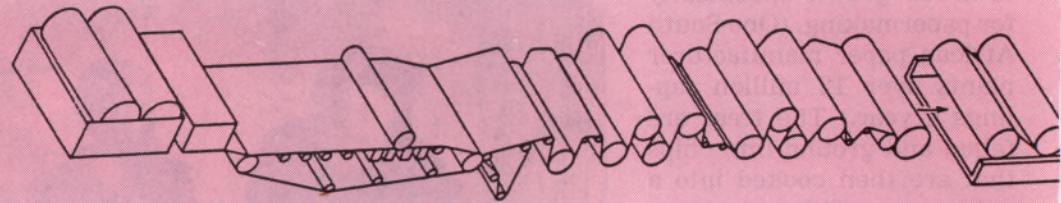
Johannes Gutenberg and his press. Without paper he could not have printed the Bible

and the paper may pass through a magnetic field to check its thickness. Infrared reflection may be used to gauge moisture content. And, yes, computers are used to monitor the paper as it passes through its various stages of production.

Making Paper Versatile

How is it, though, that paper is so versatile? While most paper is made of wood pulp, other materials are also used, such as esparto grass, bagasse (the residue from sugarcane), and bamboo. Linen, cotton, and hemp are also still used, especially for high quality writing and specialty papers, such as Bible paper. What results when these different fibers are used in different combinations? Papers that have vastly different qualities.

Consider greaseproof paper and blotting paper. Though opposites, they are made from the very same fiber! How so? Different refining and manufacturing procedures are used. In fact, simply using



different additives can impart different qualities to paper. China clay gives paper a smoother finish by filling the gaps between the fibers. Bleaches and dyes improve the color. Titanium dioxide improves opacity, so that the printing on the other side of the paper does not show through. Formaldehyde resins help paper stay strong when wet—a necessary quality for tea bags! Why, even melted paraffin may be a key ingredient. It coats waxed paper.

The possible uses for paper seem endless. Paperboard coated with plastic is used in bookcases and chairs. Synthetic fibers, such as nylon and orlon, have also

been used on their own or blended with wood pulp to make papers with fabriclike qualities for clothing and electrical insulation.

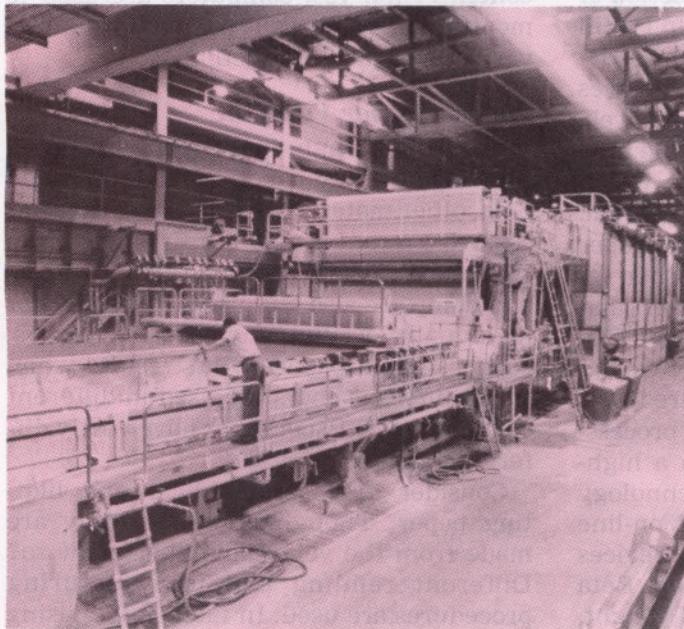
Meeting the Growing Demand

It has been said that the progress of a modern society can be measured by its paper consumption. Interestingly, in 1982 paper and paperboard production totaled **67 million tons** in the United States alone. This astonishing demand creates new challenges for manufacturers.

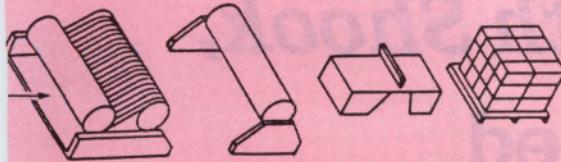
For one thing, paper mills consume vast quantities of water—250 tons per ton of wood pulp! As the *Britannica 1983 Yearbook of Science and the Future* puts it, 'A large paper mill uses as much water per day as a city of 50,000 inhabitants'!

Then there is the problem of what to do with wastepaper.

Manufacturers have met these problems with ingenuity. A major plant in South Africa treats domestic sewage and uses the reclaimed water to wash logs. This greatly cuts down on water use. Another popular strategy is the recy-



Wet end of a large high-speed fourdrinier



The fourdrinier, with the starting (wet) end at the left

cling and repulping of wastepaper. In the United States over 25 percent of the fibrous material used in papermaking is obtained from wastepaper.

Whether manufacturers will be able to keep pace with both the needs of a wasteful population and the realities of a depleted planet, only time will tell. For sure, the demand for paper will continue to be great. The publishers of this magazine put to use huge quantities of it in the printing of Bi-

bles and Bible literature. And they plan no letup in that grand work. (Matthew 24:14) Educators, industrialists, scientists, businessmen, and housewives will likewise continue using paper.

So the next time you pick up a book, write a letter, or eat off a paper plate, take a brief moment to contemplate the importance, usefulness, and indispensability of this simple yet versatile product—paper!

Whose Children? Whose Decision?

IN 1982, Britain's Medical Protection Society declared: "It is perfectly reasonable to say that you must take the parents' [religious] beliefs into account. But it is utterly unreasonable to put the child's life into danger." This was a firm endorsement for doctors to transfuse blood into the children of Jehovah's Witnesses without obtaining a court order.

However, the recent upsurge of AIDS has complicated this situation, as the *Justice of the Peace* reported in March of this year: "The terrible disease AIDS (Acquired Immune Deficiency Syndrome) introduces a new factor into the argument. If some of the transfused blood has been infected by a donor giving blood, this technically . . . could result in a child acquiring the disease, and dying in a most distressing way a short time later.

Already there have been instances where the worst has happened . . . Any terminal disease is appalling from the point of view of parents or others intimately associated with the child, but the effect of AIDS is apparently horrific almost beyond belief."

A few weeks later, a child under two years of age did die from AIDS in a London hospital. A "tragic victim of a transfusion of infected blood," reported the *Daily Mail*. The inquest revealed that more babies in Britain are likely to contract AIDS "in spite of tighter screening of blood used in transfusions." Already the British blood banks are known to be contaminated. Now will doctors and the courts allow parents to determine medical treatment for their own children and acknowledge their legal right to oppose enforced blood transfusions? Time will tell.

When the Earth Shook, They Responded

By "Awake!" correspondent in Chile

THE ground shook harder and harder. We moved over to the doorway of our room. Those in the kitchen were trying to keep the cupboards shut, while books, bottles, houseplants, glasses, and jars of jam crashed to the floor upstairs. We wondered how long it would last.

Needless to say, we didn't time it, but the next day the newspapers said it lasted two minutes. Now, you may think that two minutes isn't very long, but believe me, you would be surprised at how long it can seem when the ground beneath your feet is shaking!

It was 7:47 p.m. on Sunday, March 3, 1985, when that earthquake struck here in Santiago, Chile. We were resting in our room at the branch office of the Watch Tower Society when it happened. Other members of our staff were having a cup of tea in the kitchen.

The earthquake left us without electricity for several hours. So out came the flashlights, candles, and transistor radios. According to the news over the radio, the coastal areas and older sections of Santiago were hit hard. "How are our Christian brothers there?" we wondered. We couldn't get through to them—the phone lines were overloaded with calls, and besides, the phone lines were down in those areas. The first call to reach us was from the construction site of our new branch facilities. Were we relieved to hear that all was well and that the new factory building was solid! In fact, only a brick

wall put up in the office area that morning had fallen!

That night very few of us got a good night's sleep. We'd no sooner fallen asleep than a tremor shook our bed, waking us up. The next morning, the newspapers reported the damage, showing pictures of the devastation caused by the earthquake, which reached 7.7 on the Richter scale. Cities without water and electricity. Bridges destroyed. More than 140 people dead and an estimated 150,000 left homeless. Perhaps \$1,800 million (U.S.) in damage! Why, the earthquake was felt in Buenos Aires, Argentina, about 1,350 kilometers (840 mi) away on the Atlantic coast! March 3, 1985, will long be remembered.

Help Needed Fast!

We immediately made arrangements for different members of our branch office staff to visit places such as Machalí, Melipilla, Rengo, San Antonio, Valparaíso, and Viña del Mar. The reason? To find out how our Christian brothers were doing and what they most needed in the way of emergency relief.

Scenes of desolation were everywhere. Although most of the damage was to older adobe structures, even some modern buildings were affected—such as an eight-story apartment building in Reñaca that was rocked so hard that it thereafter leaned like the Tower of Pisa. It had to be demolished.

And our Christian brothers? Though hundreds of them lost their homes and possessions, we were so happy to learn that not one of the 16,000 Witnesses living in the affected zone was killed or injured! The congregations of Jehovah's Witnesses in Santiago and as far away as Punta Arenas and Iquique began to call, asking how they could help. The word quickly spread, and within hours some began arriving with food, clothing, blankets, and other useful items. Soon our two trucks with a total capacity of 5.5 tons were loaded and on their way. By the time they returned late that evening, sufficient donations had been received to plan another trip. And it kept up like that for almost two weeks.

On the second weekend following the earthquake, 110 volunteers from nearby congregations and the construction site of the new branch traveled to some of the cities hardest hit and put up 24 prefabricated wood-frame shelters. As of this writing, we've now built 69 such shelters, and we hope to build more before the heavy rains begin.

One congregation wrote us to say that the practical aid and shelters have visibly demonstrated our brotherhood. "*¡Los hermanos se pasaron!*" ("The brothers outdid themselves!") In a touching way, we were reminded that it is an *international* brotherhood, for in the days and weeks following the quake, Witnesses from Argentina, Germany, Italy, and the United States called to inquire about the welfare of their Christian brothers here in Chile. The phone calls were followed by generous contributions to help supply the needs of our "family."

A Time for Self-Examination

The cry "Earthquake!" and the destructive power involved often stir people to think about their relationship with God. In fact, minutes after the earthquake here in Chile, many of our Kingdom Halls were

visited by neighbors looking for protection. A Witness in Melipilla, who is well known in his neighborhood, had many visitors that night. With each aftershock, more neighbors showed up at his home looking for protection. A tent was erected in his backyard, where he spent many hours late into the night discussing the words of Jesus about the last days with "earthquakes in one place after another." —Mark 13:3-8.

In Viña del Mar a man had discontinued his Bible study and had stated that he would never return to the Kingdom Hall. But where did he find himself that night after the earthquake? Why, at the Kingdom Hall! He and his family were welcomed and given temporary lodging. He was so moved by the warm hospitality extended to him and his family that he determined he would renew his Bible study.

Some of our brothers only narrowly escaped losing their lives. For example, in the Vicuña Rozas Congregation, a brother had recently returned from the hospital and was confined to his bed. That evening his wife and daughter had gone to the meeting, so he was left alone at home. Just minutes before the earthquake struck, he decided to make a real effort and get up and surprise his wife and daughter by having the water ready for a cup of tea when they arrived home. He made his way to the kitchen, and as he was about to heat the water, the earthquake struck. When he returned to his room, he found his bed underneath a three-meter-high (9 ft) wall that had collapsed! Was he ever grateful that he thought of going to the kitchen to prepare a cup of tea!

It was faith-strengthening to see the response of our Christian brothers, who, although they lost all their possessions, remained optimistic. As many commented: "Our homes have caved in, but our faith has not!"

From Our Readers

Prevention of Accidents

I am writing in regard to your issue entitled "Accidents—Can They Be Prevented?" (July 8, 1985) At our gas and electric company we take safety very seriously. We try to stress off-the-job safety as well as on-the-job safety. I would like to request authorization to reprint in our monthly "Safety Bulletin," in whole or in part, the articles "Accidents—'Why Me?'" and "Accidents—Their Cause and Prevention."

E. A., Shift Supervisor, Iowa

Being Just Friends

I would like to express my sincere gratitude for your timely efforts to mold the mind of youths. My attention was drawn to your article "Young People Ask . . . Can a Boy and a Girl 'Just Be Friends?'" (June 8, 1985) This topic has been on my mind for quite a long time. With the aid of your timely advice, I have stopped this behavior, and I have helped most of my friends to have a balanced view of this issue. I will continue to patronize your magazine and use it to help all my friends and others too.

J. C. O., Nigeria

I have just finished reading the article "Young People Ask . . . Can a Boy and a Girl 'Just Be Friends?'" The information was exceptionally good, especially for young single people. This article called to mind something I have seen on more than one occasion. The situation seems to be a triangle consisting of a very close relationship between a husband, a wife, and the wife's best friend. Is it not just as potentially dangerous for the husband and the wife's best friend to spend so much time in each other's company, even though the

wife is also there, as it is for young single people to seek out platonic relationships?

K. B., New York

True, there can be a danger of emotional involvement where there is a triangle relationship with either the wife's best friend or the husband's best friend. Also, there can be a similar danger when two couples are always very closely associated together, whether at work, on social occasions, or on vacations. If for any reason a married person has been developing a close, confidential, and sympathetic friendship with a person other than his or her marriage mate, it could invite disaster and much sorrow.

—ED.

Unwed Motherhood

Regarding your article "Young People Ask . . . Unwed Motherhood—Could It Happen to Me?" (July 22, 1985), I suggest that you could have called it "Unwed Parenthood." You should have emphasized more in the article the mistakes made by both male and female teenagers. I think you could have put more emphasis upon the moral responsibility of both parties and stated more on the problem of male attitudes towards premarital sex, which equally leads to teenage pregnancy.

L. K. N., England

We agree that the responsibility of young men and the consequences to them morally need to be emphasized as well. The article in question was especially directed to young unmarried women, though the last three paragraphs were directed to young people of both sexes. There will be other articles in the "Young People Ask . . ." feature dealing with various aspects of this problem, which will include specific counsel to young men as well.—ED.

Watching the World



Hiroshima Bomb Rebuilt

A precise replica of the atom bomb that leveled Hiroshima has been built by researchers at the Los Alamos National Laboratory in New Mexico. The reason? To solve the mystery that still remains over the effects of the radiation from that explosion 40 years ago. While the Nagasaki bomb and other bombs tested were plutonium weapons, the Hiroshima bomb alone was a uranium bomb. In the early 1980's, a reevaluation of its explosion showed previous calculations to be flawed, and that rather than neutron radiation, the bomb's output was mostly gamma rays. A joint effort of some 60 scientists from the United States and Japan is currently being made to settle the question of which calculations are correct and to establish data that will help set safety limits for human exposure to radiation. "The lesson is that we have no real idea of the extent of the biological effects of nuclear weapons used in wartime," said Dr. Hugh DeWitt, a physicist at one of two United States facilities where nuclear weapons are designed. "The consequences may be much worse than anybody in the Department of Defense believes."

African Distress

"The 21st meeting of the Organization of African Unity ended . . . after the adoption of a decla-

ration that most countries on the continent were near 'economic collapse,'" reports *The New York Times*. "About 150 million Africans face food shortages, and nearly half of Africa's countries depend on food aid." Among measures recommended to alleviate the problems were increased invest-



ment in agriculture, a more profitable pricing policy for farmers, and the adoption of incentives for industrial growth. "The question now is whether these recommendations will actually be implemented," said an East African official. While noting that some countries have already begun making reforms, he adds: "Others, quite frankly, seem to have different priorities."

A House Divided

"The Department of Agriculture is spending \$5.3 million a year on research to develop tobacco for a safe cigarette," reports *The New York Times*, while the Department of Health and Human Services

says such research is fruitless. "The conclusion that we reached some years ago is that there is no safe cigarette," said Donald R. Shopland, acting director of the Office on Smoking and Health. "You are better off spending that money to discourage smoking rather than trying to change the engineering of the cigarette." The Agriculture Department research has been going on for the last ten years. Tobacco-industry spokesmen denied that they are doing similar research. Said one: "We don't know of anything that makes a cigarette unsafe, so how could we be working toward a safer cigarette?"

Hidden Again

God's name, Jehovah, recently came to light during the renovation and repair of the 200-year-old church of Kuhmoinen, Finland. As the old paint was being removed, the word "Jehova" (Finnish spelling of the divine name) in capital letters was clearly discernible on the wall right above the altar and underneath a large wall-painting. The future of "this slightly confusing word, as well as that of the large wall-painting," said the local newspaper *Kuhmoisten Sanomat*, "has been considered in its various aspects inside the congregation, and they have decided to hand over the decision to the parish council." The curator

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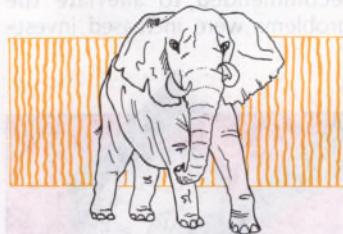
of the museum of Central Finland, Janne Vilkuna, thought the painting "so valuable that it should without delay be renovated with professional skill," the newspaper reported. But the parish council voted unanimously to cover the painting with panelwork and thus hide the "confusing" name of God.

Dead Sea

"The North Sea will be biologically dead in 25 years at the latest, and maybe within three," states *The German Tribune*, reporting on a survey undertaken by Professor Konrad Buchwald of Hanover University. According to Buchwald, the best that can be done is to keep the pollution to its present level. He sees no hope of restoring the North Sea to its former state of relative purity.

Endangered Elephants

The Central African Republic is one of the elephant's last strongholds in Africa, say wildlife conservationists. But an aerial survey team reports a "catastrophic re-



duction" in the elephant population there in the last four years, according to Dr. Iain Douglas-Hamilton, a member of the survey team and a leading expert on African elephants. Poachers from the Sudan and Chad have been killing the animals for their tusks. Additionally, local people have been killing them for both ivory and meat. The survey team estimates that the elephant population in the republic has dropped from 80,000 to 15,000 in the last decade.

Canadian Abortions

A federal study by Statistics Canada reveals that the number of teenage abortions is more than double that of abortions for women over 25. There are 16 abortions performed per 1,000 girls

between the ages of 15 and 19. This compares to 7 per 1,000 for women 25 to 44, and 18 per 1,000 on women 20 to 24. "Of the 17,725 abortions performed on teenagers in 1981, 7 per cent were repeat operations, up from 5 per cent," says *The Globe and Mail* of Toronto, Canada, in reporting the findings. "Women 20 to 24 increased their repeat abortion rate to 16 per cent from 11 per cent."

Thinking Babies

"The prospect that a 2-day-old infant may actually be doing some rudimentary thinking has set the child development specialists abuzz," reports *The Toronto Star*. Until recently, says the report, experts believed that infants younger than 8 or 12 months were incapable of coordinating data from more than one of their senses. But at this year's annual meeting of the American Association for the Advancement of Science, Andrew Meltzoff of the University of Washington reported that infants 12 to 21 days old are observed imitating facial gestures. He concludes that a baby is capa-

ble of "relating information it receives from separate senses right from birth, and it has psychological mechanisms for forging links between itself and other human beings right from the beginning."

Drinking on TV

Parents who are concerned about what their children see on TV have one more thing to worry about: drinking. According to a survey of prime-time TV broadcasts in the United Kingdom, 71.7 percent of all fictional programs feature scenes of alcohol-drinking, and there are an average of 3.4 such scenes per hour. Of greater concern, however, is the finding that "there are very few portrayals of alcohol consumption with more specific outcomes, such as assaults, car accidents, fires, ho-

micides, family abuse, or ill health," said Anders Hansen, the University of Leicester research fellow who did the study. On the contrary, such programs give viewers the impression that drinking is part and parcel of the good life or the life-style of the rich and well-to-do.

Money Talks!

In an effort to help the blind, Carleton University's Science-Technology Work Shop in Canada is developing a portable, low-priced unit that can "read" the value of a bill and "announce" its value in French or English by means of a voice synthesizer. A minute microprocessor can detect the value by scanning a series of dark and light bars, similar to those found on many products in many

countries. Proponents of the invention are hoping the bars will be included on Canadian bank notes the next time they are redesigned.

Vodka for a Tank

When four Soviet soldiers in a combat tank got lost while on maneuvers in Czechoslovakia, they traded the tank for two cases of vodka. According to the report in the German newspaper *Frankfurter Allgemeine Zeitung*, they drove into a village and parked their tank behind the only tavern there. Authorities found out later that the tavern owner bought the tank for 24 bottles of vodka, dismantled it, and sold the pieces to a metal-recycling center. The soldiers were found two days after the incident, sleeping in the forest.

