# Sexual Purity – A Biblical Worldview Perspective Remains Truth

*Dr. Bohlin uses a passage from Proverbs to provide us insight into the importance of sexual purity for our age. This important biblical worldview concept is still valid today even in this age where sexual promiscuity is trumpeted from the media.*

## Medical Reasons for Sexual Purity

As our society prepares to enter the 21st century, one trend and long-time staple of our culture looms ever larger on the horizon. The places to which one can escape in order to avoid sexual temptation continue to shrink. Children cannot be allowed to roam unsupervised through the neighborhood video stores because of the racks of videos with alluring covers of scantily clad exercisers and playmates of the year. The aisles of popular new releases contain images from R-rated movies that were only found in skin magazines thirty years ago. A trip to the grocery store can take you past the book aisle with suggestive covers on romance novels which contain graphic descriptions of sexual encounters. Billboards for beer, cars, and movies all use sex to sell. Radio stations readily play songs today that were banned from the airwaves decades ago. A trip to the mall takes you past stores with only sex to sell. Your home is invaded with sexually explicit images over even the free non-cable channels and your home computer. Unwelcome mail enters your home selling well-known sex magazines that continue to earn millions of dollars every year.

From the moment Adam and Eve were ashamed of their nakedness, sexual temptation has been in our midst. But except for brief periods in declining cultures, the temptations had to be

sought after. There were places where one could be relatively safe from the sights and sounds which inflame lust and desire. Those days are over. Oh, sure, you can have blocks installed on your computer or phone and the local video store will allow you to put a screen on your children's rentals. But the fact that such systems are necessary and only voluntary should be enough to tell us of the pervasiveness of sex in our society. Sexual purity is a rare and often scorned virtue today. When a Hollywood couple makes it known that they are saving sex for marriage, people ask, "Why would you do that?"

While sex is clearly pervasive in our society, you don't have to look very far to find plenty of reasons to avoid sexual relations outside of marriage. The biblical words for *fornication* or *sexual immorality* refer to all sexual activity outside of marriage, and the Scriptures clearly state that all such activity is forbidden (Lev. 18 & 20; Matt. 15:19; 1 Cor. 6:9-10,18; 1 Thess. 4:3). But a person may rationalize that while sexual activity outside of marriage is sin, "I can always be forgiven for my sin, and as long as I am not found out, who gets hurt?" Paul answers this resoundingly in Romans 6. "May it never be!" cries the apostle. By allowing sin to reign in our hearts we effectively say that Christ's death and resurrection has no power in our life.

If this is not powerful enough, consider the physical consequences of sexual immorality that exist today. In the 1960s there were only two STDs: syphilis and gonorrhea. Today there are over 25, and 1 in 5 Americans between the ages of 15 and 55 has a viral STD. That number is 1 in 4 if bacterial infections are included. There are 12 million new infections every year with 60 percent of these among teenagers.

Chlamydia and gonorrhea can lead to pelvic inflammatory disease which often results in sterility. Human Papilloma Virus (HPV) frequently produces genital warts which can develop into cancer. Rampant HPV infection is the primary reason that women are urged to have Pap smears on a yearly

basis. If you are sexually active outside of marriage and "lucky," you may only contract herpes, but even this is an embarrassing, bothersome, incurable infection. But you may get AIDS, which will kill you. Since the human immunodeficiency virus (HIV) can lie dormant for years before developing into deadly AIDS, your sex partner may not know that he or she is infected. The fact is, if you are sexually active outside of marriage, it is almost guaranteed that you will contract at least one STD.

But information is not enough. Why is sexual purity within marriage so important to God? And what do we do to avoid falling into sexual sin with so much temptation swirling around our heads? We will now turn to explore some time tested advice from Scripture to see what we must do and why.

## The Naturalistic Rejection of the Mystical Nature of Marriage

In his book *Reason in the Balance*, Phillip Johnson brilliantly documents the vise grip of philosophical naturalism in science, law, and education in the United States. Our populace has been taught for so long that matter, energy, space, and time are all that exists that it has infected every form of cultural discourse, including our sexual behavior. Freedom of choice and personal fulfillment are praised as the ultimate virtues because, for the naturalist, sex is just a physical act that fulfills a basic need and instinct of every person. People should be free to pursue whatever sexual expression they choose to meet that basic physiological need. And this need is only created by our fundamental drive to reproduce and spread our genes into the next generation. In the naturalistic worldview, sex becomes simply a basic need and marriage just a relative cultural expression to satisfy that need for some, but not all people.

That is why so many people, including Christians, look at

Scripture's clear statements condemning sex outside of marriage as antiquated and old-fashioned. "Oh," they say, "they applied to the people of that time, but not now. Not as we prepare to enter the 21st century!" But this raises some important questions. First, do the Scriptural injunctions against any sex outside of marriage really apply today? The answer, of course, is, "Yes, they do." We recognize readily what the Bible has to say about sex, and we see all about us the physical, emotional, and relational consequences of sexual immorality. Since God is sovereign, He established these consequences as warning signs not to transgress His principles. But second, just why is sexual fidelity so important to God?

The first reason is because God's intentions for marriage were clearly stated right from the beginning. Genesis 2:18-25 makes it plain that God's design was one man and one woman for life. Jesus used this passage as the basis for His teaching on divorce in Matthew 19: "What God has joined together, let no man break apart." As Creator, God has every right to tell us what He wants.

Second, the Father has used the marriage union as an analogy for His relationship with Israel in the Old Testament and the church's relationship with Jesus in the New Testament. Isaiah 1:21, Jeremiah 2:20, 3:1-10, and especially Ezekiel 16:15-34 accuse Israel of playing the harlot, chasing after other gods and ignoring her rightful "husband." God's union with Israel was to be forever. He was faithful, but Israel was not. The Lord rained down His judgment on the unfaithfulness of Israel and Judah. In Ephesians 5 Paul tells husbands that they are to love their wives as Christ loves the church. Elsewhere, Jesus is spoken of as the bridegroom and the church as His bride, another relationship that is to be forever. Jesus will be faithful. Will the church? Our marital and sexual relationships are to mirror the Lord's special relationships with Israel in the Old Testament and the church in the New.

God hates divorce and any sexual relationships outside of marriage, because He hates it when His faithfulness to us is spurned by our turning to other gods. This is true whether they be the pagan gods of old, which are still around, or the modern gods of self, money, power, and sex.

Well, we may know what is right, but knowing what is right is often not the same as doing what is right. Now, I want to look at a passage in Proverbs that instructs its readers concerning dangers, both obvious and subtle, of sexual temptation.

## A Young Man Lacking Sense Meets a Harlot

It is hard for some to imagine that the Bible contains explicit advice on how to avoid sexual temptation. But the entire chapter of Proverbs 7 is devoted to exactly that. In the first five verses, Solomon essentially pleads with his son to listen and guard his words carefully concerning the adulteress.

My son, keep my words,
And treasure my commandments within you.

Keep my commandments and live,
*(sounds like serious stuff!)*
And my teaching as the apple of your eye.
*(actually the "pupil" or "little man of your eye." This was meant therefore to be a precious truth to be closely guarded and kept.)*

Solomon goes on in verse 3:

Bind them on your fingers;
Write them on the tablet of your heart.

Say to wisdom, "You are my sister,"
And call understanding your intimate friend.

That they may keep you from an adulteress,

From the foreigner who flatters with her words.

In verses 6-9, King Solomon takes the role of an observer, telling his son what he sees unfolding before him.

For at the window of my house,
I looked out through my lattice,

And I saw among the naive,
I discerned among the youths,
A young man lacking sense.

Passing through the street near her corner;
And he takes the way to her house.

In the twilight, in the evening,
In the middle of the night and in the darkness.

Solomon speaks of one who is young, inexperienced, and lacking judgment. His first clue was that he purposefully walks down her street and actually heads straight to her house in the middle of the night. As Charlie Brown would say, “Good grief!” The young man’s intent is probably harmless. He is curious, perhaps hoping for a glimpse of the adulteress plying her wares to someone else on the street. Sin is probably not on his mind. He just wants to see what the real world is like. That kind of thinking is still heard today. “I just need to know what is out there so I can warn my family and others around me.” In reality, our young fool was looking for titillation and was confident that he could withstand the temptation.

This is precisely why Solomon says he is lacking sense. The apostle Paul warns in 1 Corinthians 10:12, “Therefore let him who thinks he stands take heed lest he fall.” Overconfidence is our worst enemy in the face of temptation. I am reminded of two contrasting characters in J.R.R. Tolkien’s *Lord of the Rings* trilogy, Boromir and Faramir. Boromir and Faramir were brothers. Boromir, the elder, was renowned for his exploits in

war. He was his father’s favorite and the principal heir. He was confident, however, that were he to wield the One Ring, the Ring of Power, he would not be corrupted by it and could use it to defeat the armies of the evil Sauron. However, his overconfidence and lust for power lead him to attempt to steal the ring from the designated Ring- bearer. His foolishness caused the Fellowship of the Ring to be split apart under attack and led eventually to his death. He thought he could stand, but he fell.

His brother Faramir, however, had a more realistic picture of his sinful nature. When confronted later with the same opportunity to see and even hold the Ring, he refused. He knew the temptation would be strong and that the best way not to yield to the lust for power was to keep the temptation as far away as possible. Faramir, though perceived to be weaker than his brother, was, in a sense, actually the wiser and stronger of the two. He took heed and did not fall and later played a significant role in the final victory over the forces of evil.

What about you? Do you consider yourself strong enough to resist the temptations presented in movies, books, commercials, etc.? Do you walk into the movie theater blindly, lacking sense, uninformed as to why this movie is R-rated or even PG-13? Are you a headstrong Boromir, or a wise Faramir who knows his weakness in the face of temptation and avoids it whenever possible?

## The Schemes of the Adulteress

As we continue in our walk through Proverbs 7, Solomon now focuses his attention on the schemes of the seductress. Our young man lacking sense is walking down her street, right past her house. Solomon continues in verse 10:

And behold, a woman comes to meet him,
Dressed as a harlot and cunning of heart.

She is boisterous and rebellious;
Her feet do not remain at home;

She is now in the streets, now in the squares,
And lurks by every corner.

Wow! What a surprise! A woman comes to meet him! Can't you just hear Gomer Pyle exclaiming at the top of his lungs, "Surprise! Surprise! Surprise!" Surprise, indeed! This is only what was expected. Her boisterousness lends an air of fun and frivolity. Let's face it, if sin weren't so enjoyable we wouldn't fall prey to it so easily. Solomon next gives the impression that she is everywhere to be found. As I pointed out earlier, that is even more true today. Even a widely proclaimed family movie like *Forrest Gump* surprised many with scenes that were unnecessary and sexually explicit. If you were surprised, you shouldn't have been. Check these things out beforehand. Don't act like a young man lacking sense and wander down the street of temptation unaware. Remember that Jesus extended the moral law from our actions to our thought life. If we simply lust after a woman, we have already committed adultery in our hearts (Matt. 5:27 28).

Solomon next turns to the woman's tactics:

So she seizes him and kisses him,
*(Suddenness can put you off your guard unless you have predecided what you would do, whether it is a real seduction, a scene in a movie, TV program, or book. Will you close your eyes, leave, change channels, skip a few pages? What? Know beforehand!)*

And with a brazen face she says to him:
"I was due to offer peace offerings;
Today I have paid my vows.
*(I'm not such a bad person. See, I do a lot of the same things you do. You're not going to reject and judge me, are you?)*

Therefore I have come out to meet you,

To seek your presence earnestly, and I have found you."

Ah, the ultimate weapon with a man: female flattery. Men are suckers when they're told that they are needed. It was he, particularly, that she was waiting for. Not just anybody. If a man senses he is needed, he will be very reluctant to say no. Men usually hate to disappoint.

Solomon continues:

"I have spread my couch with coverings,
With colored linens of Egypt.

I have sprinkled my bed
With myrrh, aloes and cinnamon.

Come, let us drink our fill of love until morning;
Let us delight ourselves with caresses."

As she continues her assault on the male ego by indicating all the trouble she has gone through just for him ("Don't hurt my feelings now," she says), she creates a sensual picture that is meant to arouse him and draw him in. Be realistic. This sounds inviting, even from the pages of Scripture. This should be a loud tornado siren in your ear to tell you: "There, but for the grace of God, go I!" The adulteress finishes her seduction with the assurance that no one need ever know, in verses 19 and 20. She says:

"For the man is not at home,
He has gone on a long journey;

He has taken a bag of money with him,
At the full moon he will come home."

This rationalization of "no one will know" is true not only of an affair, but also of what we allow into our minds through the privacy of our computer, videos rented when no one else is home, magazines stashed away in a secret place, or visits to parts of town where we certainly don't expect to find anyone

we know. But it’s a lie. These things cannot be hidden for a lifetime. Either you will slip up sooner or later, or you will poison your mind to such an extent that the outward temptation can no longer be resisted. Moses speaks to Israel in Numbers 32:23 warning them that if they do not obey the Lord, “their sin will find them out.”

## The Young Man Capitulates and Must Face the Consequences

As we have seen, the young man in Proverbs 7 has walked right into temptation’s snare and has been totally mesmerized by the pleas and schemes of the adulteress. I have made many parallels to today as to how prevalent sexual temptation is. Now we will see the young man’s demise and the consequences of his actions. Beginning in verse 21:

With her many persuasions she entices him;
With her flattering lips she seduces him.

Suddenly he follows her,
*(probably as if in a trance)*
As an ox goes to the slaughter,
*(silently and dumbly)*
Or as a stag goes into a trap,

Until an arrow pierces through his liver,
As a bird hastens to the snare,
*(again blindly and without knowledge)*
So he does not know that it will cost him his life.

He capitulates without a word, mesmerized by her seduction. The analogy to the ox, the deer, and the bird point out that each of them walk blindly, silently, and unknowingly to their death. So it is with the young man lacking sense. While he will not die in a physical sense, though he may if he contracts AIDS, he will die in the sense that his life will never be the same. Not only will the shame and guilt be

difficult to overcome, but there will be severed relationships that may never be repaired. There may also be consequences that can never be removed and scars that may never be healed, such as a child out of wedlock or a broken marriage in which children are the real victims. But even if the sin is with pornography, remember your sins will find you out. You may keep up appearances for awhile but your ministry, your family, and your relationship with God will slowly rot from the inside out. Solomon closes with some final warnings and observations:

Now therefore, my sons, listen to me,
And pay attention to the words of my mouth.

Do not let your heart turn aside to her ways,
*(do not give your mind opportunity with impure material)*
Do not stray into her paths.

For many are the victims she has cast down,
And numerous are all her slain.

Her house is the way to Sheol,
Descending to the chambers of death.

Your best defense is to first realize that none are immune. Remember Boromir and Faramir from Tolkien's *Lord of the Rings*. Boromir, the stronger, older brother, thought he could resist the power of the One Ring and use it to defeat the enemy. In the end, his lust for power drove him to irrationality and eventually to his death. Faramir, however, assessed his weakness correctly and refused to even look at the Ring when the opportunity arose, knowing its seductive power. He not only lived but was used mightily in the battles that followed. No one was capable of totally resisting the power of the Ring. Those who actually gazed upon the Ring, handled it and even used it, resisted only through an extreme exercise of will often aided by the intervention and counsel of others or circumstances (Frodo, Bilbo, and Samwise). Those who totally yielded to it were destroyed by it (Gollum).

Many have faltered before you and many will come after you. Your first mistake would be to think of yourself as above this kind of sin or immune to it. Don’t kid yourself. It can ruin you physically! It can ruin you emotionally! It can ruin you spiritually!

Purity affirms who we are; we are made in the image of God. Purity affirms our relationship to Jesus Christ as His bride. Purity affirms women as a treasure God created for us as a companion and helpmate and not as an object for us to conquer.

Pray and ask forgiveness for any involvement in pornography, R- rated movies, and lustful thoughts. Commit to predecide what to do about those sudden temptations, commit to purity, commit to wives and husbands (or future wives and husbands) to be faithful in the power of the Holy Spirit. Martin Luther said that you cannot stop birds from flying over your head, but you can certainly stop them from making a nest in your hair. Some temptation is unavoidable, but as far as it depends on you, give it no opportunity to set up residence in your mind.

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# “There is No Satan, No Hell, and No People Born Bad”

**I believe after 25,000 hrs of study and research, that WE should teach more about Creation and nature, along with philosophy and science, at a early age.**

**Western man starts his voyage of life thinking, he/she is bad, a sinner and always going to hell with Satan. There is NO**

**Satan. There is no hell. These are for all serious realists a level of evil conciousness. Our children are not born into a world of sin. No more than a new born fawn, calf, bird etc. etc. We all have the knowledge of knowing right from wrong. In the Eastern cultures, primarily the Buddhist, teach their young that they are good boys/girls.**

**The orthodox churches take hold of one's spirit and give it fright and scare. The conformist and orthodoxy are nothing more than a industrialized money making venture. Now our new president wants to give our tax dollars to the same groups.**

**Somewhere, somehow America must change. This earth will probably be here for a very long time. When we think on terms of eternity, infinity and the finite, let us teach the truth about nature and clean up this planet, and the young minds. We continue to tell our youth of how bad they are, they believe this. No, this gives them the license to murder, child molest, rape and a total criminal behavior. What would one expect, but our terrible bad society. Every generation this grows worse.**

I'm not sure why you sent us this recent message except perhaps as a mild rebuke of our Christian Theistic worldview. Let me just point out that setting yourself up as an authority by stating the number of hours you have studied this subject and simply stating your position as categorically true with no attempt at argument or persuasion conforms to the standard practice of propaganda and not rational discourse.

If you want to challenge something specific on our site, please write us stating what you disagree with and why and we will respond as best we can. I'm afraid your e-mail as it stands accomplishes little more than an opportunity for you to state your opinions to no one in particular. Therefore, there is no reason to specifically respond to any of your speculations.

Respectfully,

Ray Bohlin, Ph.D.
Probe Ministries

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# Contact: A Eulogy to Carl Sagan

## The Paradox of the Movie *Contact*

At the very beginning of the movie *Contact*, you should have noticed in the lower right corner of the screen a little dedication which read, “For Carl.” This, of course, is Carl Sagan (1934-1996), the Cornell astronomer and science advocate to the public, whose 1985 novel was the basis for the movie.(1) Sagan passed away in December 1996, before the movie was released, after he struggled for several years with a rare blood disorder.

The movie serves as a fitting eulogy for the most visible member of the scientific community within popular culture. The phrase “billions and billions”, attributed to Sagan, has become a part of the public’s lexicon of scientific phrases, even though Sagan never actually used the phrase in print or in any of his public broadcasts or appearances. Sagan used it self-effacingly as the title for his final and posthumously published book.

Many of us know of Carl Sagan, but we know very little about him. As a planetary astronomer, Sagan made significant contributions to the fields of chemical evolution, Martian topography, and Venusian meteorology. He also served as an official adviser to NASA on the *Mariner*, *Voyager*, and *Viking* unmanned space missions. Carl Sagan led the charge both to the

public and in the Congressional halls of government funding for space research and particularly SETI, the Search for Extra-Terrestrial Intelligence.

Sagan was awarded the Peabody Award and an Emmy for his stunningly influential public television series, Cosmos. The accompanying book by the same title is the best-selling science book ever published in the English language.(2) He earned the Pulitzer Prize for his book Dragons of Eden on the evolution of human intelligence, and numerous other awards and honorary degrees. He is the most read scientific author in the world, and upon awarding him their highest honor, the National Science Foundation heralded his gifts to mankind as "infinite."

The main character of *Contact*, Ellie Arroway, played by Jodie Foster, portrays Sagan's life in miniature. While not sharing Sagan's awards and rapport with the public, Ellie Arroway is a brilliant, driven, self-reliant young astronomer obsessed with SETI. Dr. Arroway endures scorn and ridicule from the public and science for her dedication to discovering signs of extraterrestrial life, just as Sagan has. Arroway, like Sagan, confronted with the demons of superstition, fundamentalism, and scientific jealousy, fought back with reason, sarcastic wit, and sheer perseverance.

Arroway parrots Sagan's views on the need for a rational, non-religious view of reality to solve our problems, his hope for an extraterrestrial savior to save us from our technological adolescence, and the wonder and beauty of the cosmos pointing to our species as a curious, brave, precious accident of the universe. What is paradoxical about *Contact* is not the conflict between faith and reason, but who is forced to rely on faith and experience instead of evidence. Following Ellie's trip through the galaxy and her conversation with an alien, she returns with no documentation. What was an 18-hour experience for Ellie appeared to be an uneventful few seconds to everyone else. She must ask a Congressional panel to accept

her account of events on *faith* with no evidence. If you were paying close enough attention as the film wound down, however, you could discover that this paradox is only apparent. Ellie's data instruments recorded a full 18 hours—not a few seconds—of static. There was evidence of her experience, but it was withheld from Ellie by apprehensive government officials. The scientific validation once again highlights Sagan's conviction that science is mankind's only reliable tool in the discovery of truth, and that faith only covers up our fears and stifles our search for answers.

*Contact* is a must-see film for those who wish to comprehend and knowingly confront our culture's hostility towards faith that relies on revelation.

## The Paradox of Sagan's Views of Religion

One of the most perplexing aspects of the movie *Contact* is the seemingly confusing portrayal of religion. The confusion, I believe, is only superficial. If you reflect on how the different traditional religion is discarded as irrelevant at best and dangerous at worst.

Sagan's disdain for traditional religion is clear from the beginning. Events from Ellie's childhood flashback through the early part of the movie and lay the groundwork for her rational rejection of traditional Christianity. In the novel, Ellie's father is portrayed as a skeptic of revealed religion; he views the Bible as "half barbarian history and half fairy tales."(3) In the movie, Ellie admits to Palmer Joss that her father was asked to keep her home from Sunday School because she asked too many questions that could not be answered, such as "Where did Cain get his wife?" Although this and other objections offered in the novel are easily answered, they are left unchallenged as apparently sturdy nails in the Bible's coffin.

When Ellie's father dies in the movie, the clergyman offers

harsh and uncaring words about some things being hard to understand, that we aren't meant to know, and that we just have to accept it as God's will. This deliberately presents the God of the Bible as unknowable, cruelly inscrutable, and demanding of our acceptance. Ellie's response to the minister's attempt to be consoling is to berate herself on where she should have left extra medicine where it could have been reached in an emergency. Self-reliance and analytical thinking easily out-compete the minister's feeble lecture. In a conversation with Palmer Joss, Ellie confidently asserts that we created God so we wouldn't feel so small and alone. He's just an emotional crutch.

Two other characters in the film outline Sagan's view of the modern evangelical right. The long-haired preaching zealot is portrayed as a dangerous man, out of control and out of touch with reality. He later borrows a trick from Muslim fundamentalists by sacrificing himself in an attempt to derail the multinational project to build the travel machine. Richard Rank, the presidential advisor, represents that portion of the religious right that hungers and thirsts not for righteousness, but for political power. At a cabinet meeting, Rank offers sanctimonious drivel about science intruding into areas of faith and the message being morally ambiguous. If his remarks made you cringe with anger, they were supposed to.

And then there is Palmer Joss, the enigmatic, amoral, has-been priest. Palmer Joss's New Age religion sees truth as relative and the real issue as oppression. Joss has no quibble with the conclusions of science, just its attempts to overstep its boundaries and rule our lives. His knowledge of God is limited to an experience on which he does not elaborate and that intellect cannot touch. Perhaps the attraction between Joss and Arroway is the challenge they represent to each other. Joss's religion is at least scientifically informed and therefore intriguing to Ellie, and she is scorned by the same scientific establishment that Joss distrusts. A match made in

Hollywood.

Sagan left no room for any faith that does not embrace the conclusions of a scientific materialism. This needs to be kept in mind when Joss challenges her about her belief in God during the hearings. When the other multinational members speak up in defense of Joss's question, it is clear they are only referring to some politically correct supreme being, not the God of Abraham, Isaac, and Jacob.

## Sagan's Extraterrestrial Hope

Even in a scientifically sophisticated film such as Carl Sagan's *Contact*, we run into our culture's preoccupation with life beyond our planet. Though Carl Sagan spent some of his time combating the UFO crazies, he nevertheless held out a hope that there are civilizations out there waiting to discover us, or us them. Where does this conviction come from? For a scientific materialist and humanist like Carl Sagan, this confidence comes from two sources. First is the notion that if life evolved here, it is presumptuous of us to think that we are alone. Certainly life has evolved elsewhere! Second is Sagan's and others' fear that our species sits on the brink of self-destruction and we will need some outside help to overcome our predicament.

In a conversation with Palmer Joss, Ellie Arroway gives a calculation of sorts to explain her confidence in life having evolved elsewhere. She is looking up into the plethora of stars in the nighttime sky and says, "If just one in a million of those stars has planets, and if only one in a million of those has life, and if just one in a million of those has intelligent life, then there are millions of civilizations out there." It is a little surprising that a film of such high caliber would get this one wrong. If you take each of those probabilities and multiply them together, that's one in a million million million, or a billion billion, or in scientific notation, 10 to the 18th power. Current estimates

suggest that the stars number approximately 10 to the 22nd power. That would technically leave only 10,000 civilizations in the universe, not millions. That would mean that we are alone even in our own galaxy.

In another essay (Are We Alone in the Universe?) I summarized the calculations of Christian astronomer Hugh Ross. Ross estimated the probabilities of all the necessary conditions for life occurring by natural processes. Ross concluded that if all we have to depend on are physical and chemical processes, then we are alone in the universe. Life could have evolved nowhere else. Even the biochemical complexities of living cells are revealing that life requires intelligence (See my review of *Darwin's Black Box*.). Sagan's confidence that life is super-abundant in the universe is grossly out of proportion.

The second reason for Sagan's hope of other civilizations was expressed well by Ellie Arroway. An international panel, assigned the task of choosing the one individual who would enter the machine and perhaps visit this alien civilization, queried each candidate what one question they would ask. Ellie said she would want to know how they survived their technological adolescence without destroying themselves. Sagan has been a tireless supporter of nuclear disarmament. He truly feared that we would destroy ourselves before we reached our full potential. In the opening scene of his Cosmos television series, he remarked that our species was "young and curious and brave; it showed much promise."(4) Couple this fear with the conviction that there is no God, and the only source of hope for a salvation from ourselves is another civilization more advanced than us, giving us some pointers for survival.

This confidence that an alien culture that could contact us would be more advanced than us is not unreasonable. If they have the technology to purposefully contact us, and this is something we cannot do, then their technology must be beyond ours. What is never explained, however, even though it is

raised in the movie, is why we would expect this alien culture to be benevolent. It is just as likely, if not more so, that an alien civilization would be more of the variety depicted in the movie *Independence Day*. This hope reflects more on Carl Sagan's optimistic cosmic humanism that any scientific reality.

## Who Will Save Us, God or Aliens?

The movie *Contact* tells us of a more realistic scenario for a first encounter with an alien civilization, than, say, *Men in Black*. A radio signal is received from space that is broadcast at a frequency that is equal to the value of hydrogen times pi and gets our attention by counting the prime numbers from 1 to 101 in sequence. The message is authenticated as coming from the star Vega, 26 light years away. The message is eventually decoded and found to contain the plans for constructing a machine for one person to apparently travel out into the galaxy. Ellie Arroway, a young astronomer who discovers the message, eventually boards the machine and travels out into space for a close encounter of a supposedly more realistic kind.

A very tantalizing line is repeated three times in the course of the film. When Ellie Arroway, as a child, asks her father if there are any life forms out in the universe, he says that if there isn't, it would be an awful waste of space. Palmer Joss repeats the line to an adult Ellie as they engage in a conversation under a starry sky in Puerto Rico. It is a poignant scene as Ellie clearly is stunned as she recalls her father saying the same thing. Ellie, herself, repeats the phrase at the end of the film as she is addressing a group of school children and is asked if there is life out there in space.

Sagan has drawn a bead on the argument for the existence of God from design, or the teleological argument. Waste implies misdirected design. If the universe was created for us and we

are alone, why does it have to be so big? Surely we could have survived quite well in a much smaller and economical universe. But if you think about it, Scripture proclaims that the heavens declare the glory of God, not man (Ps. 19:1). Indeed, if the universe was created only for man's benefit, then it is a waste of space. We don't deserve it. But if the main purpose of the universe is to glorify the splendid, eternal, all-powerful God, it could never be big enough.

Another interesting theme is the form that the alien takes. After Ellie travels through the galaxy, she arrives at a large docking space station. She is somehow transported to a beach, resembling a picture of Pensacola, Florida she drew as a child. Eventually, a figure approaches. It is her father. The alien appears to her in the form of her father. He tells her that they thought this would make it easier for her.

It's fascinating that Sagan often complains that if God exists, why doesn't he make himself plain? Why not a cross in the sky or a mathematical formula in the Bible? Why is everything so obscure? One answer from Philip Yancey's book, *Disappointment with God*, is that God did reveal himself plainly to Israel during the Exodus and they still rebelled, and Jesus performed incredible miracles and still most rejected him. The Father does not want to coerce our love. So isn't it interesting that in Sagan's own story, when a superior intelligence wants to make contact with us, they put us in familiar surroundings, take on our form, and speak our language?! If they appeared to us in their true form, we would be repulsed. Isn't that precisely what the Father did for us in sending Jesus to live among us? It appears that Carl Sagan has unwittingly answered his own objection.

## The Worldview of Carl Sagan

Carl Sagan began his highly acclaimed public television series Cosmos with a grand overview of the universe and our place within it. With a crashing surf in the background, Sagan

declares,

*“The cosmos is all that is or ever was or ever will be.”(5)*

Sagan eloquently expresses his conviction that matter and energy are all that exist. He goes on to describe his awe and wonder of the universe. He describes a tingling in the spine, a catch in the voice, as the greatest of mysteries is approached. With excitement, Sagan tells us our tiny planetary home the Earth is lost somewhere between immensity and eternity, thus poignantly emphasizing our simultaneous value and insignificance.

In the movie *Contact*, Dr. Ellie Arroway expresses this awe and wonder at several points in the film. The most dramatic episode occurs during her galactic space flight when she is confronted with the wonders to be seen near the center of the galaxy. She is at a loss for words in the face of such beauty and humbly suggests that a poet may have been a better choice to send on the trip.

While this is all very moving, the great emotion seems strangely misplaced and inappropriate. If the cosmos is indeed all there is or ever was or ever will be, why get excited? If we are lost between immensity and eternity, shouldn’t our reaction be one of existential terror, not awe? Sagan borrows his excitement from a Christian worldview where the heavens declare the glory of God, which *should* produce a tingle in the spine and a catch in the voice.

In the next to final scene in *Contact*, Ellie attempts to defend herself by finally admitting that she has no evidence of her trip through the galaxy. But she has been given something wonderful, a vision of the universe that tells us how tiny, insignificant, rare and precious we are. In *Cosmos*, Sagan reflects that while we are a species that is young and curious and brave, our place in the universe is to be compared to “a mote of dust that floats in the morning sky.”(6)

How can we be tiny and insignificant and rare and precious at the same time? Clearly Sagan cannot live consistently within his own worldview. His view of the universe dictates that all is meaningless chance and we are nothing special, yet he irrationally rejects the despair that logically follows in favor of being curious, brave, rare, and precious.

As Sagan neared death, many around the world were praying for him. Though clearly an enemy of the faith, the closing sentences of the novel *Contact* indicated a belief, a hope, in an intelligence that antedates the universe. Might he see the whole truth before he passes into eternity? In his final book *Billions and Billions*, his wife Ann Druyan writes, "Contrary to the fantasies of fundamentalists, there was no deathbed conversion…. Even at this moment when anyone would be forgiven for turning away from the reality of our situation, Carl was unflinching."(7) In reflecting on the many cards and letters she received upon his death from people telling of the impact Sagan had on their lives, she writes, "These thoughts comfort me and lift me out of my heartache. They allow me to feel, without resorting to the supernatural, that Carl lives."(8) Sadly, Carl does live, but not as she believes. Remember that enemies of the faith are lost and in need of a Savior. But even though they may be prayed for and witnessed to by colleagues up to the end, many, including Carl Sagan, will still, defiantly, die in their sins. It is a bitter, needless grief.

**Notes**

1. Carl Sagan, *Contact* (NY: Pocket Books [Simon and Schuster], 1986).

2. Carl Sagan, *The Demon-Haunted World* (New York: Ballantine Books, 1996), p. 459.

3. Sagan, *Contact*, p. 20.

4. Carl Sagan, *Cosmos* Video, "Episode 1: The Shores of the

Cosmic Ocean" (Turner Home Entertainment, 1989).

5. Ibid.

6. Carl Sagan, *Cosmos* (New York: Random House, 1980), p. 4.

7. Carl Sagan, *Billions and Billions* (New York: Random House, 1997), p. 225.

8. Ibid., p. 228.

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**See Also:**
• Probe Answers Our E-mail: "You Are Full of Hatred and Bigotry"

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# Darwin's Black Box

*Michael Behe's book* Darwin's Black Box *was hailed by Christianity Today as 1996's Book of the Year, with good reason. This is the first book suggesting Intelligent Design that has received such serious attention from the scientific community. Dr. Ray Bohlin, with a background in molecular biology, reviews this book from a perspective as a creationist and scientist.*

 *This article is also available in Spanish.*

## Darwin's Black Box: The Biochemistry of the Cell

What do mouse traps, molecular biology, blood clotting, Rube Goldberg machines, and irreducible complexity have to do with

each other? At first glance they seem to have little if anything to do with each other. However, they are all part of a recent book by Free Press titled, *Darwin's Black Box: The Biochemical Challenge to Evolution* by Michael Behe. Michael Behe is a biophysics professor at Lehigh University in Pennsylvania and his book, released last summer, has been causing a firestorm of activity in academic circles ever since.

The stranglehold that Darwinism has had in the biological sciences for decades has already been weakened over the last 30 years due to the new creationist movement and more recently by the push from intelligent design theorists. But Behe's new book may end up being the straw that broke the camel's back. Usually books like these are released by Christian publishers or at least a secular press that is small and willing to take a chance. Also, creationist books are rarely sold in secular bookstores or reviewed in secular publications. *Darwin's Black Box* has gained the attention of evolutionists not normally accustomed to responding to anti- evolutionary ideas in the academic arena. People like Niles Eldredge from the American Museum of Natural History, Daniel Dennett, author of *Darwin's Dangerous Idea*, Richard Dawkins of Oxford University and author of *The Blind Watchmaker*, Jerry Robison of Harvard University, and David Hull from the University of Chicago have all been forced to respond to Behe either in print or in person.

In summary, the reason for all this attention is that they readily admit that Behe is clearly a reputable scientist from a reputable institution and his argument is therefore more sophisticated than they are accustomed to hearing from creationists. Mild, backhanded compliments aside, they unreservedly say he is flat wrong, but they have gone to much greater lengths in the literature, from the podium, and in the electronic media to explain precisely why they think he is wrong. Creationists and intelligent design theorists are

usually dismissed out of hand, but not Behe's *Darwin's Black Box.*

Behe's simple claim is that when Darwin wrote *The Origin of Species*, the cell was a mysterious black box. We could see the outside of it, but we had no idea of how it worked. In *Origin*, Darwin stated,

> *If it could be demonstrated that any complex organ existed, which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down. But I can find no such case.*

Simply put, Behe has found such a case. Behe claims that with the opening of the black box of the cell through the last 40 years of research in molecular and cell biology, there are now numerous examples of complex molecular machines that absolutely break down the theory of natural selection as an all-encompassing explanation of living systems. The power and logic of his examples prompted *Christianity Today* to name *Darwin's Black Box* as their 1996 Book of the Year. Quite a distinction for a book on science published by a secular publisher!

In this essay I will be examining a few of Behe's examples and detailing further just how the scientific community has been reacting to this highly readable and influential book.

## Irreducible Complexity and Mousetraps

Behe claims the data of biochemistry argues strongly that many of the molecular machines in the cell could not have arisen through a step-by-step process of natural selection. In contrast, Behe claims that much of the molecular machinery in the cell is irreducibly complex.

Let me first address this concept of irreducible complexity. It's really a quite simple concept to grasp. Something is

irreducibly complex if it’s composed of several parts and each part is absolutely necessary for the structure to function. The implication is that such irreducibly complex structures or machines cannot be built by natural selection because in natural selection, each component must be useful to the organism as the molecular machine is built. Behe uses the example of a mousetrap. A mousetrap has five parts that are absolutely necessary for the mousetrap to function. Take any one of these parts away and the mousetrap can no longer catch mice.

The mousetrap must contain a solid base to attach the four other parts to, a hammer that clamps down on the mouse, a spring which gives the hammer the necessary power, a holding bar which holds the now energized hammer in position, and a catch to which the holding bar is secured, holding the hammer in coiled tension. Eventually, the jiggling action of a mouse, lured to the catch by a tasty morsel of peanut butter, causes the holding bar to slip away from the catch, releasing the hammer to spring down upon the unsuspecting mouse.

It’s fairly easy to imagine the complete breakdown of functionality if you take away any of these five parts. Without the base, the other parts can’t maintain the proper stability and distance from each other to be functional; without the spring or hammer, there is no way to actually catch the mouse; and without both the catch and holding bar, there is no way to set the trap. All the parts must be present and accounted for in order for a mouse to be caught and the machine to function at all.

You can’t build a mousetrap by Darwinian natural selection. Let’s say you have a factory that produces all five parts of a mousetrap but uses them for different purposes. Over the years as the production lines change, leftover parts of no-longer-made contraptions are put aside on shelves in a storage room. One summer, the factory is overrun with mice. If someone were to put his mind to it, he might run by the storage room and

begin to play around with these leftover parts and just might construct a mousetrap. But those pieces, left to themselves, are never going to spontaneously self-assemble into a mousetrap. A hammer-like part may accidentally fall from its box into a box of springs, but it’s useless until all five parts are assembled so they can function together. Nature would select against the continued production of the miscellaneous parts if they are not producing an immediate benefit to the organism.

Michael Behe simply claims that we have learned that several of the molecular machines in the cell are just as irreducibly complex as a mousetrap and, therefore, just as unable to be constructed by natural selection.

## The Mighty Cilium

One of Behe’s examples is the cilium. Cilia are tiny hair-like structures on the outside of cells that either help move fluid over a stationary cell, such as the cells in your lungs, or serve as a means of propelling a cell through water, as in the single-celled paramecium. There are often many cilia on the surface of a cell, and you can watch them beat in unison the way a stadium crowd performs the wave at a ball game.

A cilium operates like paddles in a row boat; however, since it is a hair-like structure, it can bend. There are two parts to the operation of a cilium, the power stroke and the recovery stroke. The power stroke starts with the cilium essentially parallel to the surface of the cell. With the cilium held rigid, it lifts up, anchored at its base in the cell membrane, and pushes liquid backwards until it has moved nearly 180 degrees from its previous position. For the recovery stroke, the cilium bends near the base, and the bend moves down the length of the cilium as it hugs the surface of the cell until it reaches its previous stretched out position, again having moved 180 degrees back to its original position. How does this microscopic hair-like structure do this? Studies

have shown that three primary proteins are necessary, though over 200 others are utilized.

If you made a cross-section of a cilium and made a photograph of it with an electron microscope, you would see that the internal structure of the cilium is composed of a central pair of fibers surrounded by an additional 9 pairs of these same fibers arranged in a circle. These fibers or microtubules are long hollow sticks made by stacking the protein tubulin. The bending action of cilia depends on the vertical shifts made by these microtubules.

The bending is caused by another protein that is stretched between the pairs of tubules called nexin. Nexin acts as a sort of rubber band connector between the tubules. As the microtubules shift vertically, the rubber band is stretched taut, the microtubules continue to shift if they bend. Whew! I know this is getting complicated, but hang with me a little longer. The microtubules slide past each other by the action of a motor protein called dynein. The dynein protein also connects two microtubules together. One end of the dynein remains stationary on one microtubule, while the other end releases its hold on the neighboring microtubule and reattaches a little higher and pulls the other microtubule down.

Without the motor protein, the microtubules don’t slide and the cilium simply stands rigid. Without nexin, the tubules will slide against each other until they completely move past each other and the cilium disintegrates. Without the tubulin, there are no microtubules and no motion. The cilium is irreducibly complex. Like the mousetrap, it has all the properties of design and none of the properties of natural selection.

## Rube Goldberg Blood Clotting

Rube Goldberg was a cartoonist in the earlier part of this

century. He became famous for drawing weird contraptions that must go through many seemingly unnecessary steps in order to accomplish a rather simple purpose. Over the years, some evolutionists have alluded to living systems as Rube Goldberg machines as evidence of their construction by natural selection as opposed to being designed by a Creator. Things such as the Panda's thumb and the intricate workings of the many varieties of orchids are said to be contrived structures that an intelligent creator surely would have found a better way of doing.

If you have never seen a cartoon of a Rube Goldberg machine, let me describe one for you from Mike Behe's book, *Darwin's Black Box*. This one is titled the "Mosquito Bite Scratcher." Water falling off a roof migrates into a drain pipe and collects into a flask. In the flask is a cork that floats up as the glass fills. Inserted in the cork is a needle that eventually rises high enough to puncture a suspended paper cup filled with beer. The beer then sprinkles onto a nearby bird that becomes intoxicated and falls off its platform and onto a spring. The spring propels the inebriated bird onto another platform where the bird pulls a string (no doubt mistaking it for a worm in its intoxicated state). The pulled string fires a cannon underneath a small dog, frightening him and causing him to flip over on his back. His rapid breathing raises and lowers a disk above his stomach which is attached to a needle positioned next to a mosquito bite on a man's neck allowing the bite to be scratched, causing no embarrassment to the man while he talks to a lady.

Well, this machine is obviously more complicated than it needs to be. But the machine is still designed and as Behe claims, it is also irreducibly complex. In other words, if one of the steps fails or is absent, the machine doesn't work. The whole contraption is useless. Well, there are a few molecular mechanisms in our bodies that are very similar to Rube Goldberg machines and therefore irreducibly complex. One is

the blood-clotting cascade. When you cut your finger an amazing thing happens. Initially, it begins to bleed, but if you just leave it alone, after a few minutes, the flow of blood stops. A clot has formed, providing a protein mesh that initially catches the blood cells and eventually closes up the wound entirely, preventing the plasma from escaping as well.

This seemingly straightforward process involves over a dozen different proteins with names like thrombin, fibrinogen, Christmas, Stuart, and accelerin. Some of these proteins are involved in forming the clot. Others are responsible for regulating clot formation. Regulating proteins are needed because you only want clots forming at the site of a wound not in the middle of flowing arteries. Yet other proteins have the job of removing the clot once it is no longer needed. The body also needs to eliminate the clot when it has outlived its usefulness, but not before.

Now it’s easy to see why some, when considering the blood-clotting cascade, wonder if a Creator could have devised something simpler. But that assumes we fully understand the system. Perhaps it absolutely needs to be this way. Besides, this doesn’t in any way diminish the fact that even a Rube Goldberg machine is designed just as the blood clotting system seems to be.

## Silence of Molecular Evolution and the Reaction

Clearly, the irreducible complexity inherent in many biochemical systems not only precludes the possibility that they evolved by Darwinian natural selection, but actually suggests the strong conclusion that some kind of intelligent design is necessary. Behe makes a very significant point by recognizing that the data that implies intelligent design doesn’t necessarily mean one knows who the designer is. Inferring that intelligent design is present is a reasonable

scientific conclusion. Planetary astronomers, for example, claim that we will be able distinguish a radio signal from space that was sent by an intelligent civilization from the surrounding radio noise even though we won't initially understand it and won't know who sent it.

Yet the astounding complexity of the cell has gone largely unnoticed and greatly unreported to the general public. There is an embarrassed silence. Behe speculates as to why; he says,

> *Why does the scientific community not greedily embrace its startling discovery? Why is the observation of design handled with intellectual gloves? The dilemma is that while one side of the elephant is labeled intelligent design, the other side might be labeled God (p.233).*

This may also help to account for another curious omission that Behe highlights, the almost total lack of scientific literature attempting to describe how complex molecular systems could have arisen by Darwinian natural selection. The *Journal of Molecular Evolution* was established in 1971, dedicated to explaining how life at the molecular level came to be. One would hope to find studies exploring the origin of complex biochemical systems in this journal. But, in fact, none of the papers published in *JME* over the entire course of its life as a journal has ever proposed the origin of a single complex biochemical system in a gradual step-by-step Darwinian process.

Furthermore, Behe adds,

> *The search can be extended, but the results are the same. There has never been a meeting, or a book or a paper on details of the evolution of complex biochemical systems (p. 179).*

Behe's sophisticated argument has garnered the attention of

many within the scientific community. His book has been reviewed in the pages of *Nature*, *Boston Review*, *Wall Street Journal*, and on many sites on the Internet. While some have genuinely engaged the ideas and offered serious rebuttal, most have sat back on Darwinian authority and claimed that Behe is just lazy or hasn't given the evolutionary establishment enough time. Jerry Coyne in *Nature* (19 September 1996, pp. 227-28) put it this way:

> *There is no doubt that the pathways described by Behe are dauntingly complex, and their evolution will be hard to unravel. Unlike anatomical structures, the evolution of which can be traced with fossils, biochemical evolution must be reconstructed from highly evolved living organisms, and we may forever be unable to envisage the first proto-pathways. It is not valid, however, to assume that, because one man cannot imagine such pathways, they could not have existed.*

But that's precisely the point; it is not one man but the entire biochemical community that has failed to elucidate a specific pathway leading to a complex biochemical system.

I highly recommend Behe's book. Its impact will be felt for many years to come.

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# The Little Lamb That Made a Monkey of Us All

Like many others, I was caught totally flat-footed, astonished by the announcement of the successful cloning of an adult sheep, Dolly. Caught so unaware, in fact, that Probe is re-

airing my three-year-old program on human cloning the week of March 17-21, 1997, because so little had changed. When the announcement of a successful sheep cloning was made, it was too late to pull the program from the schedule; tapes had already been sent to all the radio stations and there just wasn't time to replace it in only three weeks. Consequently (and spurred by a number of phone calls and e-mails from around the country), I have compiled a few thoughts and comments regarding scientific and moral considerations about this historic breakthrough to temporarily plug the gap.

## Scientific Considerations

Normal mammary cells were intentionally starved of critical growth nutrients in order to allow the cells to reach a dormant stage of the normal cell cycle. This process of bringing the cells into dormancy apparently allows the cell's DNA to be reprogrammed by the proteins already in the egg cell for renewed cell division and new cell functions. The cells were fused with an enucleated egg cell (a cell that had its nucleus removed) and stimulated to begin cell division by an electric pulse.

The process was inefficient. Out of 277 cell fusions, 29 began growing *in vitro.* All 29 were implanted in receptive ewes, 13 became pregnant, and only one lamb was born as a result. This is a success rate of only 3.4%. In nature, somewhere between 33 and 50% of all fertilized eggs develop fully into newborns.

The procedure was very non-technical, and no one is really sure why it worked. It needs to be repeated. All attempts to clone mouse cells from adults have failed. Some suggest that sheep embryos do not employ the DNA in the nucleus until after 3-4 cell divisions. This may give the egg cell sufficient time to reprogram the DNA from mammary cell functions to egg cell functions. Human and mouse cells employ the nuclear DNA after the second cell division. Human and mouse cells may not be capable of being cloned because of this difference.

The purpose of these experiments was to find a more effective way to reproduce genetically engineered sheep for the production of pharmaceuticals. A sheep embryo can be engineered to produce a certain human protein or hormone in its milk. The human protein can then be harvested from the milk and sold on the market. Instead of trusting the somewhat unpredictable and time-consuming methods of normal animal husbandry to reproduce this genetic hybrid, cloning it assures that the engineered gene product will not be lost.

Genetic material is the same in all cells of an organism (except the reproductive cells, sperm and egg, which have only half the full complement), but differentiated cells are biochemically programmed to perform limited functions, and all other functions are turned off. Based on attempts in frogs and mice, most scientists felt that the reprogramming was impossible.

A critical question is the lifespan of Dolly. All cells have a built-in senescence or death after so many cell divisions. Dolly began from a cell that was already six years old. A normal lifespan for a ewe is around 11 years. Will Dolly live to see her seventh birthday?

It is also uncertain as to whether Dolly will be reproductively fertile. Frog clones are usually sterile.

Reprogramming the nucleus could lead to procedures to stimulate degenerating nerve cells to be replaced by newly growing nerve cells. Adults do not generate nerve cells normally.

## Moral Considerations

Will humans be cloned for spare parts? While this is certainly possible, I consider it very unlikely that this would be sanctioned by any government. That doesn’t mean, however, that someone won’t try.

Will humans be cloned to replace a dying infant or child? This is certainly a possibility, but we need to ask if this is an appropriate way to deal with loss. Might unrealistic expectations be placed on a clone that would not be placed on a normally-produced child?

Will humans be cloned to produce children for otherwise childless couples? This is the most often-given reason for human cloning. This argument is unpersuasive when there are currently so many children that need adoption. Also, this further devalues children to the level of a commodity. If *in vitro* fertilization is expensive, cloning will be worse.

Will humans be cloned for vanity? Someone will certainly try.

Will human clones have a soul? In my mind, they will be no different from an identical twin or a baby that results from *in vitro* fertilization. How a single fertilized egg splits in two to become two individuals is a similar mystery.

Does cloning threaten genetic diversity? Excessive cloning may indeed deplete the genetic diversity of an animal population, leaving the population susceptible to disease and other disasters. But most biologists are aware of these problems, and I would not expect this to be a major concern unless cloning were the only means available to continue a species.

If the technique is perfected in animals first, will this save the tragic loss of fetal life that resulted from the early human experimentation with *in vitro* fertilization? *In vitro* fertilization was perfected in humans before it was known how effective a procedure it would be. This resulted in many wasted human beings in the embryonic stages. The success rate is still only 1 in 5 to 1 in 10; normal fertilization and implantation success rates are 2-3 times that. While animal models will help, there will be unique aspects to human development that can only be known and overcome by direct human experimentation which disrespects the sanctity of human

life.

This provides a means for lesbians to have a child. One supplies the nucleus and the other provides the egg. The egg does contain some unique genetic material in the mitochondria that are not contributed by sperm or nucleus. One cell from each donor would be fused together to create a new individual, though all the nuclear genetic material comes from one cell. Sue Bohlin has an upcoming program on homosexual myths including gay marriage. This is no longer marriage as it is currently understood, and the technological hoops that must be jumped through for any gay couple to have children should be a clear warning that something is wrong with the whole arrangement.

Are human clones unique individuals? Even identical twins manage to forge their own identity. The same would be true of clones. In fact, this may argue strongly against the usefulness of cloning since you can never reproduce all the life experiences that have molded a particular personality. The genes will be the same, but the environment and the spirit will not.

All together, I find the prospect of animal cloning potentially useful. But I wonder if the procedure is as perfectible as some hope, and may end up being an inefficient process to achieve the desired result. Human cloning is fraught with too many possible difficulties, from the waste of human fetal life during research and development to the commercializing of human babies (see my previous cloning article) with far too little potential advantage to individuals and society. What there is to learn about embryonic development through cloning experiments can be learned through animal experimentation. The cloning of adult human beings is an unnecessary and unethical practice that should be strongly discouraged if not banned altogether.

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# Can Humans Be Cloned Like Sheep?

## Why Is Cloning So Difficult and How Did They Do It?

Like so many others I was caught totally flat-footed and astonished by the announcement of the successful cloning of an adult sheep, Dolly. A few years ago I aired a radio program on the prospects of human cloning and considerably downplayed the possibilities. Earlier this year, we here at Probe had decided to rebroadcast this program because little had changed. When the announcement about Dolly was made, it was too late to pull the program from the schedule as tapes had already been sent to all the radio stations, and there just wasn't time to replace or update it. Consequently, I compiled a few thoughts and comments on this historic breakthrough and quickly made it available on our web site to temporarily plug the gap.

Subsequently, the article was featured on Christian Leadership's web site, Leadership University (www.leaderu.com), and I started receiving numerous phone calls and e-mails as a result. This essay is now an updated and expanded version of that article to help us think through both the scientific and moral implications of this stunning achievement.

The genetic material is the same in all cells of an organism (except the reproductive cells, sperm and egg, which have only half the full complement of chromosomes). However,

differentiated cells (liver cells, stomach cells, muscle cells, etc.) are biochemically programmed to perform limited functions and all other functions are turned off. Most scientists felt that the reprogramming was next to impossible based on cloning attempts in frogs and mice.

So what did the scientists in Scotland do that was successful? Well, they took normal mammary cells from an adult ewe and starved them (i.e., denied them certain critical growth nutrients) in order to allow the cells to reach a dormant stage. This process of bringing the cells into dormancy apparently allows the cells' DNA to be deprogrammed. Apparently most if not all of the programming for specific functions of the mammary cells were turned off and the DNA made available for reprogramming. The starved mammary cells were then fused with an egg cell that had its nucleus removed. The egg cell was then stimulated to begin cell division by an electric pulse. Proteins already in the egg cell somehow altered the DNA from the mammary cell to be renewed for cell division and embryological functions.

As might be expected, the process was inefficient. Out of 277 cell fusions, 29 began growing as embryos *in vitro* or in the petri dish. All 29 were implanted into 13 receptive ewes, yet only one became pregnant. As a result of these efforts, one lamb was born. This translates to a success rate of only 3.4%, and the success rate is even less (.36%), when you calculate using the 277 initial cell fusions attempted. In nature, on the other hand, somewhere between 33 and 50% of all fertilized eggs develop fully into newborns.

Altogether the procedure was rather non-technical, and no one is really sure why it worked. The experiments still need to be repeated. Previously, all attempts to clone mice from adult cells have failed. But clearly, an astounding breakthrough has been made. You can be sure that numerous labs around the world will be attempting to repeat these experiments and trying the technique on other mammalian species. Can this procedure be

done with humans? Should we try it with humans? I'll be dealing with these questions later in this discussion.

**Why Clone Anything?**

Before proceeding to deal with the question of human cloning, a more basic concern needs to be addressed. Some, for example, may be asking, "Why would anyone want to clone anything in the first place, but especially sheep?"

The purpose of these experiments was to find a more effective way to reproduce already genetically engineered sheep for production of pharmaceuticals. Sheep can be genetically engineered to produce a certain human protein or hormone in its milk. The human protein can then be harvested from the milk and sold on the market. This is accomplished by taking the human gene for the production of this protein or hormone and inserting it into an early sheep embryo. Hopefully the embryo will grow into a sheep that will produce the protein.

This is not a certainty, and while the process may improve, it will never be perfect. Mating the engineered sheep is also not foolproof because even mating with another genetically engineered sheep may result in lambs that have lost the inserted human gene and cannot produce the desired protein. Therefore, instead of trusting the somewhat unpredictable and time-consuming methods of normal animal husbandry to reproduce this genetic hybrid, cloning more directly assures that the engineered gene product will not be lost.

There may be other benefits to cloning technology. Reprogramming the nucleus of other cells, such as nerve cells, could lead to procedures to stimulate degenerating nerve cells to be replaced by newly growing nerve cells. Nerve cells in adults do not ordinarily regenerate or reproduce. This could have important implications for those suffering from Parkinson's and Alzheimer's.

If the process can actually be perfected to the extent that

production costs are reduced and the quality of the eventual product is improved, then this would be a legitimate research goal. The simplicity of the technique, though still inefficient, makes this plausible. But there are still questions that need to be answered.

One critical question concerns the lifespan of Dolly. All cells have a built in senescence or death after so many cell divisions. Dolly began with a cell from a ewe that was already six years old. A normal lifespan for a ewe is around 11 years. Will Dolly live to see her seventh birthday? Actually most cell divisions are used up during embryological development. Dolly's cells may peter out even earlier. This is critical because a 10-year-old sheep is considered elderly, and lambing and wool production decline in sheep after their seventh year. My guess though is that since Dolly's genes were reprogrammed from mammary cell functions to embryological functions, that the senescence clock was also reset back to the beginning. I expect Dolly to live a normal lifespan.

It is also uncertain as to whether Dolly will be reproductively fertile. Frogs cloned from tadpole cells are usually sterile. It is possible that while Dolly is normal anatomically, the cloning process may somehow interfere with the proper development of the reproductive cells. If this were the case, there may be other problems not immediately detectable. This will be answered this summer when Dolly reaches sexual maturity.

**Can We Clone Humans?**

While we have established that animal cloning may be permissible and even scientifically useful, what about cloning humans? First of all, is it feasible? Secondly, just because we can do it, should we? Should we even try?

At this point it is reasonable to assume that because the procedure works with sheep and possibly with cattle (the

experiments with cattle are already underway), it should be perfectible with humans. This does not mean, however, that there may not be unique barriers to cloning humans as opposed to cloning sheep.

Some suggest that by using the particular procedure developed by the researchers in Scotland, sheep may be easier to clone. The reason is that sheep embryos do not employ the DNA in the nucleus until after 3 to 4 cell divisions. This may give the egg cell sufficient time to reprogram the DNA from mammary cell functions to egg cell functions. Human and mouse cells employ the nuclear DNA after only the second cell division. This may be why similar experiments have not worked in mice. Therefore, human cells and mouse cells may not be capable of being cloned because of this difference.

If this barrier does indeed exist, it is not necessarily insurmountable. The news of a cloned sheep was surprising enough that no one, including me, is now going to step out on the same sawed-off limb and predict that it **can't** eventually work with humans. I mentioned earlier that the procedure is so startlingly non-technical that there are numerous laboratories around the world that could immediately begin their own cloning research program with a minimum of investment and expertise. While I fully expect that many labs will begin studies on cloning other mammalian species besides sheep, I'm not so sure about humans.

In 1993, researchers here in the United States employed well known techniques to artificially twin human embryos. They immediately became embroiled in a firestorm of public scrutiny that they did not anticipate nor enjoy (see my earlier article, "Human Cloning: Have Human Beings Been Cloned?"). They were even criticized by other researchers in the field for jumping ahead without scrutinizing the ethical ramifications. The public reaction was no doubt very sobering to the rest of the scientific community. Many countries have already either completely banned experimentation in human

cloning or at least imposed a temporary moratorium so that the ethical questions can be properly investigated before stepping ahead. Even the researchers in Scotland responsible for Dolly have plainly stated that they see no reason to pursue human cloning and are personally repulsed by the idea.

There are some in the scientific community, however, who feel that the ability to do something is reason enough to do it. But in this case, I believe that they are the minority. For example, molecular biologists imposed a moratorium of their own in the 70s when genetic technology was first being developed until critical questions could be answered. Also, while nuclear weapons have been produced for over 50 years, only two have been used and that was 52 years ago. Many are now being dismantled. These cases show us that human restraint, though rare, is possible.

So while it is reasonable to believe that humans can be cloned, and that someone, somewhere may try, the overall climate is so against it that I don’t think we will see it announced anytime soon.

**Why Clone Humans?**

Overall, the public reaction has been negative toward cloning human beings, and this is rather curious in a culture that is admittedly post-Christian in orientation. Nevertheless, many people still want to draw a distinction between animals and humans.

As Christians we understand this desire because we assert that humans are made in the image of God and that animals are not. There is, therefore, a clear demarcation between animals and humans. But in an evolutionary view, humans are nothing special—just another animal species. The expected reaction was offered by an editorial in the *Dallas Morning News* (Monday, 3 March 1997, 9D) by Tom Siegfried which he titled: “It’s hard

to see a reason why a human Dolly is evil." He summarized his perspective when he said, "The ability to clone is part of gaining deeper knowledge of life itself. So Dolly should not be seen as scary, but as a signal that life still conceals many miracles for humans to discover." To the naturalist, any knowledge is valuable, and the means to obtain it is justified essentially by its benefit to society.

With this in mind, let's explore some of the reasons why people have suggested that human cloning is a worthwhile proposition and deal with some of the questions people are asking.

**Concerns About Human Cloning**

*There is much that can be learned about human embryonic development by researching human cloning.* While this is true, this is precisely the reasoning used by Nazi Germany to justify experimentation on Jews. Experiments were performed on exposure to cold, water, and other extreme conditions with human subjects, frequently to the point of death, because data on human subjects was deemed indispensable. Of course, we know now that animal models work just as well; consequently, there is no need to use human models to gain this type of data.

*Will humans be cloned for spare parts?* A few writers have suggested that some individuals may want to establish an embryonic clone to be frozen and put away. Then, in the event of a childhood disease requiring a transplant, the embryo can be thawed, implanted in a surrogate, and raised to a sufficient age for the spare organ to be harvested and transplanted. While this is certainly possible, I consider it very unlikely that these practices would be sanctioned by any government because it completely tosses aside the uniqueness of humanity and trashes the concept of human dignity. That doesn't mean, however, that someone won't try.

*Will human cloning be used to replace a dying infant or child?*

This is certainly a possibility, but we need to ask if taking such a course of action is an appropriate way to deal with loss. Unrealistic expectations may be placed on a clone that would not be placed on a normally produced child. The cloned child may be the same genetically, but different in other respects. This could create more frustration than comfort.

*Will humans be cloned to provide children for otherwise childless couples?* This is the reason most often given for human cloning, yet the argument is unpersuasive when there are so many children that need adoption. Also, this devalues children to the level of a commodity. Also, if *in vitro* fertilization seems expensive at $5,000-8,000 a try, cloning will be more so.

*Will human clones have souls?* In my mind, they will be no different than an identical twin or a baby that results from *in vitro* fertilization. How a single fertilized egg splits in two to become two individuals is a similar mystery, but it happens.

*Does cloning threaten genetic diversity?* Excessive cloning may indeed deplete the genetic diversity of an animal population, leaving the population susceptible to disease and other disasters. But most biologists are aware of these problems, and I would not expect this to be a major concern unless cloning were the only means available to continue a species.

*If the technique is perfected in animals first, will this save the tragic loss of fetal life that resulted from the early human experimentation with* in vitro *fertilization? In vitro* fertilization was perfected in humans before it was known how effective a procedure it would be. This resulted in many wasted human beings in the embryonic stages. The success rate is still only 10 to 20%. The success rate of normal fertilization and implantation is around 33 to 50%. While animal models will help, there will be unique aspects to human development that can only be known and overcome by direct

human experimentation which does not respect the sanctity of human life.

*Cloning provides a means for lesbians to have children as a couple.* One supplies the nucleus and the other provides the egg. The egg does contain some unique genetic material in the mitochondria that are not contributed by sperm or nucleus. One cell from each partner is fused together to create a new individual, though all the nuclear genetic material comes from only one cell. The real question is whether this is the proper environment for any child to grow up in. (For more information on this topic, see Sue Bohlin's essay, "Homosexual Myths.") Homosexual "marriages" are not really marriages in the normal understanding of the term, and the technological hoops that must be jumped through for any gay couple to have children should be a clear warning that something is wrong with the whole arrangement.

*Are human clones unique individuals?* Even identical twins manage to forge their own identity. The same would be true of clones. In fact, this may argue strongly against the usefulness of cloning since we can never reproduce all the life experiences that have molded a particular personality. The genes will be the same, but the environment and the spirit will not.

All together, I find the prospect of animal cloning potentially useful. But I wonder if the procedure is as perfectible as some hope. It may end up being an inefficient process to achieve the desired result. Human cloning is fraught with too many possible difficulties, from the waste of human fetal life during research and development to the commercializing of human babies (see my previous Human Cloning article) with far too little potential advantage to individuals and society. What there is to learn about embryonic development through cloning experiments can be learned through animal experimentation. The cloning of adult human beings is an unnecessary and unethical practice that

should be strongly discouraged if not banned altogether.

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# A Darwinian View of Life

*Probe's Dr. Ray Bohlin reviews Richard Dawkins' anti-theistic book,* A River Out of Eden: A Darwinian View of Life*, showing the holes in Dawkins' arguments.*

## A River of DNA

*A River Out of Eden: A Darwinian View of Life* by Richard Dawkins is the fourth in a series being published by Basic Books entitled "The Science Masters Series." This series is said to be "a global publishing venture consisting of original science books written by leading scientists. "Purposing to "present cutting-edge ideas in a format that will enable a broad audience to attain scientific literacy," this series is aimed at the non-specialist.

The first three releases were *The Last Three Minutes: Conjectures about the Ultimate End of the Universe* by Paul Davies, *The Origin of Humankind* by Richard Leakey, and *The Origin of the Universe* by John D. Barrow. These were followed by the contribution from Dawkins. A look at these books, and at future contributors like Daniel Dennett, Jared Diamond, Stephen Jay Gould, Murray Gell-Mann, Lynn Margulis, and George C. Williams, makes the endeavor look less like a scientific literacy series and more like an indoctrination in philosophical naturalism.

The exposition of a Darwinian view of life by Dawkins in *River Out of Eden* certainly fits into the overt anti-theism

category. His “River Out of Eden” is a river of DNA that is the true source of life and the one molecule that must be understood if life is to be understood.

This river of DNA originally flowed as one river (one species) which eventually branched into two, three, four, and eventually millions of rivers. Each river is distinct from the others and no longer exchanges water with the others, just as species are isolated reproductively from other species. This metaphor allows Dawkins to explain both the common ancestry of all life along with the necessity of gradualism in the evolutionary process.

Dawkins refers to this river of DNA as a digital river. That is, the information contained in the DNA river is completely analogous to the digital information of languages and computers.

Surprisingly, Dawkins gives away the store in this first chapter. In pressing home the digital analogy, Dawkins first uses probability to indicate that the code arose only once and that we are all, therefore, descended from a common ancestor:

> *The odds of arriving at the same 64:21 (64 codons: 21 amino acids) mapping twice by chance are less than one in a million million million million million. Yet the genetic code is in fact identical in all animals, plants and bacteria that have ever been looked at. All earthly living things are certainly descended from a single ancestor.(p. 12)*

So it is reasonable to use probability to indicate that the code could not have arisen twice, but there is no discussion of the probability of the code arising by chance even once. A curious omission! If one tried to counter with such a question, Dawkins would predictably fall back on the assumption of naturalism that since we know only natural processes are available for the origin of anything, the genetic code must have somehow beaten the odds.

# African Eve

Chapter 2 attempts to tell the story of the now famous “African Eve.” African Eve embodies the idea that we are all descended from a single female, probably from Africa, about 200,000 to 100,000 years ago. This conclusion originates from sequence data of the DNA contained in mitochondria.

Mitochondria are tiny little powerhouses that produce energy in each and every cell of your body. Just as your body contains many organs that perform different functions, the cell contains many organelles that also perform specific functions. The mitochondrion is an organelle whose task is to produce energy molecules the cell can use to accomplish its tasks.

However, mitochondria are also the only organelle to contain their own DNA. Certain proteins necessary to the function of mitochondria are coded for by the mitochondrial DNA and not by the nuclear DNA like every other protein in the cell. One other unique aspect of mitochondria is their maternal inheritance. That is, all the mitochondria in your body are descended from the ones you initially inherited from your mother. The sperm injects only its DNA into the egg cell, not its mitochondria. Therefore, an analysis of mitochondrial DNA reveals maternal history only, uncluttered by the mixture of paternal DNA like nuclear DNA. That’s why these studies only revealed an African Eve, though other recent studies claim to have followed DNA from the Y chromosome to indicate an ancient “Adam.”

Now these scientists don’t actually think they have uncovered proof of a real Adam and Eve. They only use the names as metaphors. But this action does reveal a shift in some evolutionists minds that there is a single universal ancestor rather than a population of ancestors. This at least is closer to a biblical view rather than farther away.

Finally, Dawkins makes his case for the reliability of these molecular phylogenies in general. Here he glosses over weaknesses in the theory and actually misrepresents the data. On page 43 he says, “On the whole, the number of cytochrome c letter changes separating pairs of creatures is pretty much what we’d expect from previous ideas of the branching pattern of the evolutionary tree.” In other words, Dawkins thinks that the trees obtained from molecular sequences nearly matches the evolutionary trees we already had. Later on page 44, when speaking of all molecular phylogenies performed on various sequences, he says, “They all yield pretty much the same family tree which by the way, is rather good evidence, if evidence were needed, that the theory of evolution is true.”

Well, besides implying that evidence is not really needed to prove evolution, Dawkins stumbles in trying to display confidence in the molecular data. What exactly does “pretty much” mean anyway? Inherent in that statement are the numerous contradictions that don’t fit the predictions or the ambiguous holes in the general theory. But then, evidence isn’t really needed anyway is it?

While this chapter contained the usual degree of arrogance from Dawkins, particularly in his disdain for the original account of Adam and Eve, it was somewhat less compelling or persuasive than is his usual style. He hedged his bet frequently and simply waived his hand at controversy. Unfortunately, this may not be picked up by the unwary reader.

## Scoffing at Design

In Chapter 3 Dawkins launches a full-scale assault on the argument from design. After presumably debunking arguments from the apparent design of mimicry (not perfect design, you know, just good enough), Dawkins states, “Never say, and never take seriously anybody who says, ‘I cannot believe so-and-so could have evolved by gradual selection.’ I have dubbed this fallacy ‘the Argument from Personal Incredulity.'”

To some degree I'm afraid that many creationists have given Dawkins and others an easy target. Such a statement, "I cannot believe…," has been used many times by well-meaning creationists but is really not very defensible. It is not helpful to simply state that you can't believe something; we must elaborate the reasons why. First, Dawkins levels the charge that much of what exists in nature is far from perfectly designed and is only good enough. This he claims is to be expected of natural selection rather than a designer. This is because a designer would design it right while natural selection has to bumble and fumble its way to a solution. To begin with, the lack of perfection in no way argues for or against a designer.

I have always marveled at some evolutionists who imply that if it isn't perfect, then Nature did it. Just what is perfection? And how are we to be sure that our idea of a perfect design wasn't rejected by the Creator because of some flaw we cannot perceive? It is a classic case of creating God in our own image.

The evolutionists are the ones guilty of erecting the straw man argument in this instance. In addition, Dawkins fully admits that these features work perfectly well for the task at hand. The Creator only commanded His creatures to be fruitful and multiply, not necessarily to be perfectly designed (humanly speaking) wonders. Romans 1:18-20 indicates that the evidence is sufficient if you investigate thoroughly.

Dawkins further closes off criticism by declaring that "there will be times when it is hard to think of what the gradual intermediates may have been. These will be challenges to our ingenuity, but if our ingenuity fails, so much the worse for our ingenuity." So if explanations fail us, the fault is not with the evolutionary process, just our limited thinking. How convenient that the evolutionary process is so unfalsifiable in this crucial area. But after all, he implies, this is science and intelligent design is not!

Dawkins concludes the chapter with a discussion on the evolution of the honeybee waggle dance. It is filled with probabilistic statements like “The suggestion is that…. Perhaps the dance is a kind of…. It is not difficult to imagine…. Nobody knows why this happens, but it does…. It probably provided the necessary….” Yet at the end, Dawkins proclaims,

> *We have found a plausible series of graded intermediates by which the modern bee dance could have been evolved from simpler beginnings. The story as I have told it…may not be the right one. But something a bit like it surely did happen.*

Again, “it happened” only because any other explanation has been disallowed by definition and not by the evidence.

## God’s Utility Function

Dawkins concludes his attack on design in his book *River Out of Eden,* with a more philosophical discussion in Chapter 4, God’s Utility Function. He begins with a discussion of the ubiquitous presence of “cruelty” in nature, even mentioning Darwin’s loss of faith in the face of this reality. Of course, his answer is that nature is neither cruel nor kind, but indifferent. That’s just the way nature is.

But a curious admission ensues from his discussion. And that is, “We humans have purpose on the brain.” Dawkins just drops that in to help him put down his fellow man in his usual arrogant style. But I immediately asked myself, “Where does this ‘purpose on the brain’ stuff come from?”

The rest of nature certainly seems indifferent. Why is it that man, within an evolutionary worldview, has “purpose on the brain”? In his attempt to be cute, Dawkins has asked an important question: Why is man unique in this respect?

As Christians, we recognize God as a purposeful being;

therefore if we are made in His image, we will also be purposeful beings. It is natural for us to ask “Why?” questions. No doubt if pressed, someone will dream up some selective or adaptive advantage for this trait. But this, as usual, would only be hindsight, based on the assumption of an evolutionary worldview. There would be no data to back it up.

At the chapter’s end Dawkins returns to his initial topic. “So long as DNA is passed on, it does not matter who or what gets hurt in the process…. But Nature is neither kind nor unkind…. Nature is not interested one way or another in suffering, unless it affects the survival of DNA.” Even Dawkins admits that this is not a recipe for happiness. The problem of evil returns. Dawkins’s simple answer is that there is no problem of evil. Nature just is.

He recounts a story from the British papers of a school bus crash with numerous fatalities and reports a Catholic priest’s inadequate response to the inevitable “Why” question. The priest indicates that we really don’t know why God would allow such things but that these events at least confirm that we live in a world of real values: real positive and negative. “If the universe were just electrons, there would be no problem of evil or suffering.” Dawkins retorts that meaningless tragedies like this are just what we expect from a universe of just electrons and selfish genes.

However, it is also what we expect in a fallen world. Evolutionary writers never recognize this clear biblical theme. This is not the way God intended His world to be. What is unexpected in an evolutionary world are people shaped by uncaring natural selection who care about evil and suffering at all. Why are we not as indifferent as natural selection?

In making his point, Dawkins says that the amount of suffering in the natural world is beyond all “decent” contemplation. Where does decency come from? He calls the bus crash a “terrible” story. Why is this so terrible if it is truly

meaningless? Clearly, Dawkins cannot live within the boundaries of his own worldview. We see purpose and we fret over suffering and evil because we are created in the image of a God who has the same characteristics. There are aspects of our humanity that are not explainable by mutation and natural selection. Dawkins must try to explain it, however, because his naturalistic worldview leaves him no choice.

## Are We Alone?

Dawkins closes his book with a final chapter on the origin of life and a discussion on the possibilities of life elsewhere in the universe. This chapter is a bit of a disappointment because there is really very little to say. To be sure, it is filled with the usual Dawkins arrogance and leaps of naturalistic logic, but there is no real conclusion just the possibility of contacting whatever other life may be out there.

Dawkins begins with a definition of life as a replication bomb. Just as some stars eventually explode in supernovas, so some stars explode with information in the form of life that may eventually send radio messages or actual life forms out into space. Dawkins admits that ours is the only example of a replication bomb we know, so it is difficult to generalize as to the overall sequence of events that must follow from when life first appears to the sending of information out into space, but he does it anyway.

While we can clearly distinguish between random and intelligent radio messages, Dawkins is unable to even ask the question about the origin of the information-rich DNA code. I suppose his answer is contained on page 138 when he says, “We do not know exactly what the original critical event, the initiation of self-replication, looked like, but we can infer what kind of an event it must have been. It began as a chemical event.”

This inference is drawn not from chemical, geological, or biological data, because the real data contradicts such a notion. Dawkins takes a few pages to evoke wonder from the reader by documenting the difficult barriers that had to be crossed. His conclusion that it was a chemical event is rather an implication that is derived from his naturalistic worldview. It is a chemical event because that is all that is allowed. Creation is excluded by definition, not by evidence. While chemical evolution may be difficult, we are assured that it happened!

The book closes with a discussion of the Ten Thresholds that must be crossed for a civilization of our type to exist. Along the way, Dawkins continues to overreach the evidence and make assumptions based on naturalism without the slightest thought that his scenario may be false or at least very wide of the mark.

All along the way Dawkins tries to amaze us with both the necessity and complexity of each threshold but fails miserably to explain how each jump is to be accomplished. He depends totally on the explanatory power of natural selection to accomplish whatever transition is needed. It is just a matter of time.

But, of course, this begs the question. Dawkins perfects this art for 161 pages. Despite the smoke and mirrors, Richard Dawkins is still trying to sail upstream without a paddle. It just won’t work. While many of his explanations and ruminations should make careful reading for creationists (he is not stupid and writes well), I have tried to point out a few of his inconsistencies, assumptions, and poor logic.

What bothers me most is that this is meant to be a popular book. His wit and dogmatism will convince and influence many. For these reasons I found it a frustrating and sometimes maddening book to read. Unfortunately, few will think their way through these pages and ask tough questions of the author

along the way. This is where the real danger lies. We must not only show others where he is wrong but help them how to discover these errors on their own. We must help people to think, not just react.

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# Evolution's Big Bang

*The Cambrian explosion of life has long befuddled evolutionists. New data have only deepened the mystery and caused a critical rethinking of cherished evolutionary concepts.*

 *This article is also available in Spanish.*

## Another Big Bang?

The impish Calvin, from the now defunct daily comic strip "Calvin and Hobbes," once offered to rename the Big Bang Hypothesis, "The Horrendous Space Kablooie!" Most of us have heard at some point of cosmology's preferred explanation for the origin of the universe, the Big Bang Hypothesis. The Big Bang of cosmology describes the origin of the universe as occurring in a powerful explosion that eventually results in the universe as we see it today. But a recent issue of *Time* magazine (4 December 1995) heralded a new Big Bang, a Big Bang of biological evolution previously known as the Cambrian Explosion of Life. And just as many draw theistic conclusions from cosmology's Big Bang, so it is possible to draw theistic conclusions from what is now being called Evolution's Big Bang.

But first, just what is evolution's Big Bang? The cover of

this issue of *Time* declared: “New discoveries show that life as we know it began in an amazing biological frenzy that changed the planet almost overnight.” A subheading just in front of the inside article proclaimed, “For billions of years, simple creatures like plankton, bacteria, and algae ruled the earth. Then, suddenly, life got very complicated.”

The standard evolutionary story describes an earth bombarded by meteorites from its origin 4.5 billion years ago until almost 3.8 billion years ago. Within only 100 million years the first life evolved following the cessation of this celestial onslaught. This, in and of itself, is a huge evolutionary hurdle without explanation. For the next 3 billion years, little else but single- celled life forms ruled the planet. Then suddenly, in the Cambrian geological period, the earth is populated with a huge diversity of complex multicellular life forms. This has always looked suspiciously like some form of creation event, and paleontologists frequently seemed rather embarrassed by the reality of the Cambrian Explosion.

So, where is the documentation for the long history of the evolution of these creatures? The usual answer is that the necessary fossil layers prior to the Cambrian period have not been discovered yet. The fossils are just missing! Hmmm. . . . how convenient! This, after all, was Darwin’s excuse and many evolutionists after him followed suit. Well, recent discoveries from Canada, Greenland, China, Siberia, and Namibia document quite clearly that this period of biological creativity occurred in a geological instant virtually all around the globe. So, the usual excuse no longer holds water. While evolutionists are not exactly joining a creationist wave of conversion, they are being forced to ask tough questions concerning the nature of evolutionary change. Darwin did not envision major evolutionary change happening this fast. Darwinism has always been characterized by slow gradual change that is imperceptible in our time frame. Major evolutionary

change was only visible as we looked to the fossils to reveal the number and type of intermediates between species and major groups. But the Cambrian explosion is anything but gradual, and identifiable intermediates are totally absent. Where are the ancestors? What conditions could have prompted this frenzy of creativity? Is there some form of unknowable evolutionary mechanism at work? I think you will find the evolutionary community's answers to be quite revealing.

## How Fast is Fast?

*Anomalocaris! Ottoia! Wiwaxia! Hallucigenia! Opabinia!* If these names are unfamiliar to you, well, they should be. For they are only becoming familiar to paleontologists over the last twenty years. Paleontologists are those scientists who study the fossils embedded in ancient layers of rock. And this strange list represents a group of animals from the Cambrian period that is only now being appreciated—animals which supposedly lived over 500 million years ago. These animals not only possess strange sounding names, but are even stranger looking! So strange and different are they that most are contained in phyla of which they are the only example and which no longer exists.

Whoa! . . . you say! And just what is a phyla? Well, if you think way back to high school biology, *phyla* is actually the plural form of *phylum,* a Latin term designating a large category of biological classification. The largest category of classification is the Kingdom. We all know about the Animal and Plant Kingdoms. Well, Phylum is the next category below Kingdom. The Animal Kingdom consists of such well known phyla as the molluscs which contains clams, oysters, and snails. Another commonly known phylum is the annelids to which belong the earthworms. The largest of all phyla is the arthropods. Arthropods range from insects to millipedes to spiders to shrimp. We are placed in the phylum Chordata along with all other vertebrates, the fish, amphibians, reptiles, and other

mammals. Representatives from different phyla are very different creatures. There is not much in common between a human, an earthworm, a clam, and a mosquito. They are all from different phyla—so different that evolutionists have assumed that it must have taken tens of millions of years for these phyla to evolve from one common ancestor.

Yet, here is the real puzzle of the Cambrian Explosion for the theory of evolution. All the known phyla, except one, along with the oddities with which I began this discussion, first appear in the Cambrian period. There are no ancestors. There are no intermediates. Fossil experts used to think that the Cambrian lasted 75 million years. But even that seemed to be a pretty short time for all this evolutionary change. Eventually the Cambrian was shortened to only 30 million years. And if that wasn't bad enough, the time frame of the real work of bringing all these different creatures into existence was limited to the first five to ten million years of the Cambrian. This is extraordinarily fast! Harvard's Stephen Jay Gould says, "Fast is now a lot faster than we thought, and that is extraordinarily interesting." What an understatement! "Extraordinarily impossible" might be a better phrase!

In the *Time* magazine article (p. 70), paleontologist Samuel Bowring says, "We now know how fast fast is. And what I like to ask my biologist friends is, How fast can evolution get before you start feeling uncomfortable?" I would love to ask Bowring just what he meant by that statement. It's almost as if he is recognizing that current evolutionary mechanisms can't possibly act that fast. The potential answers to that dilemma are only creating more questions, questions that evolutionists may never be able to answer.

## How Could the Cambrian Explosion Occur?

Charles Darwin proposed an evolutionary process that was slow and gradual. This formulation has remained the mainstay of evolutionary explanations for the over 100 years since Darwin

until very recently. One of the many reasons for a rethinking of this slow, gradual, snail-like pace has been the intricate complexity of living things. In the years before Darwin, the marvelous fit of an organism to its environment was considered the chief evidence of a Supreme Designer. But Darwin supposedly showed another and better way, natural selection. But if organisms were so finely-tuned to their environment, so wonderfully adapted to their particular niche, then if they were to change at all over time, then that change would have to be very gradual so as not to upset too quickly that delicate balance between the organism and its environment.

This notion of the gradualness of the evolutionary process was deeply reinforced with the discovery of DNA and the genetic code. DNA operates as an informational code for the development of an organism from a single cell to an adult and also regulates all the chemical processes that go on in cells. Mutations, or mistakes in the code had to have very minor effects. Disruption of the blueprint would be very sensitive. The small changes brought about by mutations would have to be cumulative over very long periods of time to bring about significant evolutionary changes.

This necessity of gradualism explains the difficulty evolutionists have concerning the Cambrian explosion or Evolution’s Big Bang, as *Time* magazine called it. How could animals as diverse as arthropods, molluscs, jellyfish, and even primitive vertebrates all appear within a time span of only 5-10 million years with no ancestors and no intermediates? Evolution just doesn’t work this way. Fossil experts and biologists are only beginning to wrestle with this thorny dilemma. Some think that genes which control the process of development from a fertilized egg to an adult, the so- called *Hox* genes, may have reached a critical mass which led to an explosion of complexity. Some of the simplest multi-celled organisms like the jellyfish only have three *Hox* genes, while insects have eight, and some not-quite-vertebrates have

ten. Critical mass may be a real phenomena in physics, but biological processes rarely if ever work that way. Besides, that doesn't solve the important riddle of where the first *Hox* gene came from in the first place. Genetic information does not just spontaneously arise from random DNA sequences.

Other scientists think that a wholesale reorganization of all the genes must have also changed along with the duplication of *Hox* genes to bring about this stupendous amount of change. But that only complicates the picture by requiring additional, simultaneous genetic mutations that have to occur virtually all at once. This would have an enormous negative effect on an organism that was already adapted to its environment. How could it survive? It seems that the equivalent of a miracle would be required. But such things aren't allowed in evolution. To quote *Time* magazine again,

> *Of course, understanding what made the Cambrian explosion possible doesn't address the larger question of what made it happen so fast. Here scientists delicately slide across data-thin ice, suggesting scenarios that are based on intuition rather than solid evidence.*

## Why Hasn't Such Rapid Change Ever Happened Again?

Before addressing this question, let's review our discussion thus far. Evolution's Big Bang, the Cambrian explosion of life that supposedly occurred over 500 million years ago, continues to puzzle evolutionists. Recent discoveries have narrowed the time frame from over 70 million years to less than 10 million years. This has only complicated their dilemma because so many different creatures appear in the Cambrian with no ancestors or intermediates. The major evolutionary innovations represented in the Cambrian would ordinarily require at least tens of millions of years to accomplish. Some might even suggest over 100 million years would be required. The

differences between the creatures that suddenly appear in the Cambrian are enormous. In fact these differences are so large many of these animals are one of a kind. Nothing like them existed before and nothing like them has ever appeared again.

In fact, a question that is just as perplexing as how this explosion of diversity could occur so fast, is why hasn't such drastic change ever happened in the 500 million years since? The same basic body plans that arose in the Cambrian remain surprisingly constant ever since. Apparently, the most significant biological changes in the history of the earth occurred in less than ten million years, and for 500 million years afterward, this level of change never happened again. Why not? This may seem like a simple question, but it is far more complicated than it appears.

Many biologists think the answer must lie within the genetic structure of organisms. During the Cambrian, new forms of life could readily appear because the genetic organization of organisms was relatively loose. Once all these body plans came into existence and were successful, then these same genetic structures became relatively inflexible in order to preserve what worked so well. In other words there may be genetically built-in limits to change. Developmental biologist Rudolf Raff said, "There must be limits to change. After all we've had these same old body plans for half a billion years." Lane Lester and I coauthored a book over ten years ago titled *The Natural Limits to Biological Change*. Though the limits to change we proposed were tighter than what these evolution scientists are proposing, it is the same basic idea. We even suggested that these limits to change would be found in the genetic organization and regulatory programs that are already built in.

Some evolutionists have gone so far as to suggest that the mechanisms of evolution operating in the Cambrian were probably radically different from what has taken place ever since. This raises the possibility that we may never be able

to study these mechanisms because animals with the proper genetic structure no longer exist. We are left only with the products of the Cambrian explosion and none of the precursors. The speculations will therefore be wild and uncontrollable since there will be no way to test these theories. Fossils leave no trace of their genetic organization. We may never be able to know how this marvelous burst of creativity occurred. Sounds like evolutionists may be faced with the very same problems they accuse creationists of stumbling over: a process that was unique to the past, unobservable in any shape or form, and unrepeatable.

Stuart Kaufmann, a leader in complexity theory, places his faith in self-organizing systems that spontaneously give rise to order out of chaos—a sort of a naturalistic, impersonal self-creator. A supernatural Creator performs the same function with the added benefit of providing a source of intelligent design as well.

## Marvelous Evidence of Creation and Design and the Role of World View

So often at Probe our focus is on some issue that has the opposing forces shaped by worldview. A worldview is a system of beliefs or philosophy of life that helps us to interpret the world around us. We often compare one's worldview to a pair of glasses that helps bring everything into focus. Just as it is important for someone with impaired vision to have the right prescription glasses, so it is also necessary for sin-impaired people to have the right world view with which to make sense of the world of ideas around us.

Clearly we believe that the Bible offers the only tool to arrive at the right prescription or worldview. We have been discussing here Evolution's Big Bang, the Cambrian explosion of life approximately 543 million years ago according to evolutionists. The latest discoveries in this field were

highlighted in *Time* magazine's 4 December 1995 issue. Three weeks later, some very interesting letters appeared from readers in *Time*. They are very instructive of the effects of one's worldview when evaluating the very same evidence. Much of our time in this pamphlet has been spent detailing the vast problems that the Cambrian explosion produces for evolutionary theory. But that is from the vantage point of a biblical worldview. One *Time* magazine reader commented, "This report should end discussions about whether God created the earth. Now there is no way to deny the theory of evolution." Another reader said, "It is great to see a national magazine put the factual evidence of evolution's vast, complex story out there for the lay public."

Now, before you go assuming that they surely didn't read the same story I have been describing in these pages, listen to these readers with a different perspective. "A more appropriate title for your article could have been 'Evolution's Big Bust.' One hundred and thirty-five years of Darwinism out the window just like that? What a poor excuse for the lack of transitional forms." Another reader said, "This story read more like confirmation for Noah's Deluge than Darwin's theory of evolution."

Well, they all read the same story. Many even quoted from the article to explain their views. So, how can four people read the same information and come to such radically different conclusions? The difference is worldview. To those who are working within a naturalistic worldview, one which holds that there is no God, some form of evolution must be true. Therefore, while the evidence of the Cambrian may be perplexing, the fact that scientists are wrestling with it and offering some possible explanations is exciting and invigorating. However, I find that they are usually missing the big picture. By concentrating on explaining the minutiae, naturalistic thinkers often miss the clear possibility of intelligent design precisely because they don't expect to find

any.

A great example of this is a comment by Harvard's Steven Jay Gould on the Cambrian creatures found in the Burgess Shale of Canada:

> *Imagine an organism built of a hundred basic features, with twenty possible forms per feature. The grab bag contains a hundred compartments, with twenty tokens in each. To make a new Burgess creature, the Great-Token-Stringer takes one token at random from each compartment and strings them together. Voila, the creature works—and you have nearly as many successful experiments as a musical scale can build catchy tunes.*

Sounds like a marvelous description of a Creator to me, but perhaps only if you are thinking biblically from the start.

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# Euthanasia: The Battle for Life from a Christian Viewpoint

*Dr. Bohlin approaches this issue from a biblical worldview. As a Christian, he looks at current events and attitudes in this sad area and points out that popular sentiments may be far from biblical and godly.*

## Physician-Assisted Suicide in the United

## States

On March 6, 1996, the Ninth U. S. Circuit Court of Appeals struck down Washington state's ban on physician-assisted suicide. By a surprisingly commanding 8-3 vote, the court ruled that terminally- ill adults have a constitutional right to end their lives. Essentially, the court decided that an individual's right to determine the time and manner of his own death outweighed the state's duty to preserve life. This ruling will also likely uphold Oregon's voter approved doctor-assisted suicide law that has been bogged down in the courts.

The only recourse now is the Supreme Court, which is not expected to overrule the Appeals Court's decisions. On April 2, the Second U.S. Circuit Court of Appeals ruled that New York state's bans on assisted-suicide were "discriminatory." Then on May 15, 1996, Dr. Jack Kevorkian, the infamous "Dr. Death," was acquitted for a third time of doctor-assisted suicide in the state of Michigan.

The stage is set for a revolution in the law concerning euthanasia in this country. Kevorkian's escapes from the law and these recent rulings from the Appeals Courts will further encourage the "right- to-die" lobby which seeks to make doctor-assisted suicide the law of the land. What will be overlooked is over 2,000 years of medical practice and ethical codes. The Hippocratic Oath, originating in 400 B.C., and the standard for medical practice ever since, states, "I will keep [the sick] from harm and injustice. I will neither give a deadly drug to anybody if asked for it, nor will I make a suggestion to that effect."

Allowing doctors to end life as well as preserve life would change the face of the entire medical community.The doctor/patient relationship will be forever compromised. Is your doctor's advice truly in your best interests or in his best interest to rid the hospital and himself of a pesky patient and situation?

Dr. Thomas Beam, chairman of the Medical Ethics Commission of the Christian Medical and Dental Society points out, “While the act of physician-assisted suicide seems compassionate on the surface, it is often the abandonment of the patient in their most needy time. Instead of support, the patient may only find confirmation of the hopelessness of their condition and physician-assisted suicide is legitimized as the only ‘way.'”(1) It is not terribly difficult to see how this circumstance would undermine the delicate relationship between a doctor and his patient.

Surely, you say, most people don’t agree with the policy of doctor- assisted suicide. However, the *New England Journal of Medicine* reported a poll from the state of Michigan which indicated that “66 percent of state residents and 56 percent of Michigan doctors would prefer that doctor-assisted suicide be legalized not outlawed.”(2) And even though doctor-assisted laws were defeated in referendums in California and Washington, the defeats were narrow. And a similar law was finally passed in Oregon in 1994. In addition, 23 states are now considering such legislation. And as mentioned earlier, two different Appeals Courts have ruled in favor of doctor-assisted laws. In this essay I will examine why so many favor legalization of assisted suicide. I will take a close look at Dr. Jack Kevorkian, the most visible proponent of assisted suicide. Also, I will examine what the Bible has to say about life, death, and God’s sovereignty. Finally, I will discuss some test cases and inform you about what you can do to combat this growing evil in our land.

## Who is Dr. Jack Kevorkian and Why Do People Seek His Help?

Why is such a large segment of our society, over 60% in some communities, enamored with the possibility of physician-assisted suicide? While there can be many roads that will lead to this conclusion, the primary one is fear. People today fear

being at the mercy of technology, of being kept alive with no hope of recovery by machines. Few seem to realize that it is already legal for a terminally ill patient to refuse life-prolonging measures. We must realize that there is a difference between simply allowing nature to take its course when someone is clearly dying and taking direct measures to hasten someone's death. Former Surgeon General C. Everett Koop acknowledges,

> *If someone is dying and there is no doubt about that, and you believe as I do that there is a difference between giving a person all the life to which he is entitled as opposed to prolonging the act of dying, then you might come to a time when you say this person can take certain amounts of fluid by mouth and we're not going to continue this intravenous solution because he is on the way out.(3)*

Extraordinary measures are not required to keep a dying person alive at all costs. But some people fear exactly that. Removing this fear will take a lot of the wind out of the euthanasia sails.

Secondly, people fear the pain of the dying process. Intractable pain is a real fear, but few people today realize that most of the pain of terminally ill patients can be dealt with. Many doctors, particularly in the U.S., are not aware of all the measures at their disposal. There are new ways of administering morphine, for example, that can achieve effective pain management with lower doses and therefore a lower risk of respiratory complications.

Dr. Paul Cundiff, practicing oncologist and hospice care physician with 18 years of experience treating dying patients says,

> *It is a disgrace that the majority of our health care providers lack the knowledge and the skills to treat pain and other symptoms of terminal disease properly. The absence of*

> *palliative caretraining for medical professionals results in sub-optimal care for almost all terminally ill patients and elicits the wish to hasten their own deaths in a few.(4)*

But many would even be willing to live with the pain if they knew that they would not be left alone. The growth in the hospice movement will help alleviate this fear as well. The staff at a hospice is trained to deal not only with physical pain, but with psychological, social, and spiritual pain as well. If you have seen pictures of the many people Jack Kevorkian has assisted to commit suicide, you cannot help but notice that these are lonely, miserable people. Pain has had little to do with their desire to commit suicide. As a nation we have in large part abandoned our elderly population. When God commanded Israel to honor their fathers and their mothers, this was understood to mean primarily in their older years. Extended families no longer live together even when the medical needs of parents are not severe or terribly limiting. No one wants to be a burden or to be burdened.

Dr. Jack Kevorkian is a retired pathologist with essentially no training in patient care. He is simply on a personal mission to bring about legalized physician-assisted suicide to help usher in a code of ethics based totally on relativism. "Ethics must change as the situation changes," he says. "That's the way to keep control. Not by an inflexible maxim that applies for two thousand years, but an ethical code that will change a decade later."(5) Right now Kevorkian's victims are the few lonely and desperate individuals who seek him out. The future victims of his crusade will not only be those who wish to die, but those whom doctors and relatives feel should die.

## The Lessons of Holland

One of the primary reasons for concern about the legalization of physician-assisted suicide is the now runaway death culture

of Holland. Doctor-assisted suicide was essentially legalized in Holland in 1973 by two court decisions. While not officially legalizing euthanasia in Holland, the courts simply said that if you follow certain guidelines you will not be prosecuted.

The problem is that any such regulations are not enforceable. As a result, the government of Netherlands reported in 1991 that only 41% of the doctors obey the rules and 27% admitted to performing involuntary euthanasia. That is, without the patient's consent! In addition, over 2% of the deaths in Holland in 1990 were the result of direct voluntary euthanasia, but 6% of all deaths were the result of involuntary euthanasia.

Many people in Holland today carry around a card that states they are not to be euthanized without their consent! That is precisely where we are headed. Once a right to physician-assisted suicide is established as it was in Holland, it soon degenerates into others being willing and able to make the decision for you.(6)

In Holland, doctors performed involuntary killing because they thought the family had suffered too much; some were tired of taking care of patients, and one was mad at his patient!(7) Even the conditions of allowed voluntary euthanasia are appalling. Robin Bernhoft, a U.S. surgeon of the liver and pancreas, relates an incident where a doctor in Holland told of a 26 year-old ballerina with arthritis in her toes requesting to be euthanized. Apparently since she could no longer pursue her career as a dancer, she was depressed and no longer wished to live. Amazingly, the doctor complied with her request. His only justification was to say that "One doesn't enjoy such things, but it was her choice!"(8)

With this in mind, when the discussion of guidelines comes up, remember that in Holland, guidelines were useless. Enforcement is near impossible, and families and doctors as well as

patients will succumb to the pressures of pain, depression and inconvenience. Sadly, pain and depression are treatable. There have been tremendous advancements in pain management which the American medical community is only recently being brought up to speed on. Depression can also be addressed but some patients, families, and doctors are often too impatient and lacking in genuine compassion to do the hard work to bring someone out of a depression. It is easier to offer help in suicide.

The lessons of Holland need to reinforce in our minds the necessity of making as many people aware of the dangers as possible. Since our society is now dominated by a worldview that prizes individual autonomy and shuns any mention of Biblical ethics, it can be very easy, yet ultimately, deadly, to go along with the crowd.

## Why Life Is Worth Living: What the Bible Teaches

As we discuss the issue of euthanasia and physician-assisted suicide, it is critical that we not only understand what is going on in the world around us but that we also understand what the Bible clearly teaches about, life, death, pain, suffering, and the value of each human life.

First, The Bible teaches that we are made in the image of God and therefore, every human life is sacred (Genesis 1:26). In Psalm 139:13-16 we learn that each of us is fearfully and wonderfully made. God himself has knit us together in our mother's womb. We must be very important to Him if He has taken such care to bring us into existence.

Second, the Bible is very clear that God is sovereign over life, death and judgement.In Deuteronomy 32:39 The Lord says, "See now that I myself am He! There is no god besides me, **I** put to death and **I** bring to life, **I** have wounded and **I** will heal, and no one can deliver out of my hand." Psalm 139:16

says that it is God who has ordained all of our days before there is even one of them.Paul says essentially the same thing in Ephesians 1:11.

Third, to assist someone in committing suicide is to commit murder and this breaks God's unequivocal commandment in Exodus 20:13.

Fourth, God's purposes are beyond our understanding. We often appeal to God as to why some tragedy has happened to us or someone we know. Yet listen to Job's reply to the Lord in Job 42:1-3:

> *I know that you can do all things; no plan of yours can be thwarted. [You asked,] 'Who is this that obscures My counsel without knowledge?' Surely I spoke of things I did not understand,things too wonderful for me to know.*

We forget that our minds are finite and His is infinite. We cannot always expect to understand all of what God is about. To think that we can step in and declare that someone's life is no longer worth living is simply not our decision to make. Only God knows when it is time. In Isaiah 55:8-9 the Lord declares, "For my thoughts are not your thoughts, neither are your ways my ways. As the heavens are higher than the earth, so are my ways higher your ways and my thoughts higher than your thoughts."

Fifth, our bodies belong to God anyway. Paul reminds us in 1 Corinthians 6:15,19 that we are members of Christ's body and that we have been bought with a price. Therefore we should glorify God with our bodies. The only one to receive glory when someone requests doctor-assisted suicide is not God, not the doctor, not even the family but the patient for being willing to "nobly" face the realities of life and "unselfishly" end everyone else's misery. There is no glory for God in this decision.

Lastly, suffering draws us closer to God. In light of the euthanasia controversy, listen to Paul's words from 2 Corinthians 1:8:

> *We were under great pressure, far beyond our ability to endure, so that we despaired even of life. Indeed, in our hearts we felt the sentence of death. But this happened that we might not rely on ourselves but on God, who raises the dead.*

Not only does He raise the dead but there is nothing that can separate us from His love (Romans 8:38). For an inspiring and thoroughly biblical discussion of the euthanasia issue, read Joni Earickson Tada's book *When is it Right to Die?* (Zondervan, 1992). Her testimony and clear thinking is in stark contrast to the conventional wisdom of the world today. We must do the same.

## What Will You Do? What Can You Do?

The Christian Medical and Dental Society has produced an excellent resource on physician-assisted suicide titled *The Battle for Life.*(9) As a part of the package they provide several cases to test your grasp of the principles involved and to help Christians be aware of the tough decisions that have to be made. I would like to share two of those with you and then discuss what you can do now to combat the "right to die" forces in this country.

Here is test case one:

> *Your 80 year-old grandmother has been fighting cancer for some time now and feels the emotional strain. She feels like she'll become a burden to the family. Her doctor notes that she seems to have lost her desire to live. Should she be able to have her doctor give her a prescription expressly designed to kill her?*

This is precisely what the courts have legalized in recent months and precisely what God's word says is wrong. It is wrong because it would be taking her life into our hands and violating God's sovereignty. Because physician-assisted suicide goes beyond letting someone die naturally to actually causing the death, it violates God's commandment, You shall not murder. There is a clear distinction between allowing death to take its natural course in someone who is clearly dying with no hope of a cure, and taking specific measures to end someone's life. There comes a time when the body is imminently dying. Bodily functions begin to shut down. At this point, people should be made as comfortable as possible, be supported and encouraged by their family and doctors, and allowed to die. This is death with dignity. Taking a lethal injection or breathing poisonous carbon monoxide takes life out of God's hands and into our own.

Test case number two:

> *Your spouse has an incurable fatal disease, has lost control of bodily functions and is unable to communicate. Special treatment and equipment can extend your spouse's life for a few weeks or even months but will involve much pain and exhaustion. Would it be morally right for you to not arrange for the treatment?*

Many would accept a decision not to arrange for treatment because that would not be killing but simply allowing death to take its natural course. Such decisions are not always clear-cut, however, and a physician and family members must take into account the pros and cons of intervention versus a faster natural death. Sometimes we rationalize that we need to keep the patient alive as long as possible because God may still work a miracle. But just how much time does God need to work a miracle? If God is going to intervene He will do so on His time and not ours.

Now that we have a better understanding of the issues, you may be wondering just what we can do about this threat among us. Three things:

*Pray* – Pray that God will turn the hearts of people back to Himself and back to protecting life. Pray for righteousness and justice in our legal system, that we enact laws that preserve life, punish the guilty and protect the innocent.

*Speak Out* – Present this information to other groups. Talk with your friends and family and discuss the reasons for protecting life.Contact your state and federal legislators and tell them to stand against physician-assisted suicide.

*Reach Out* – Visit the elderly, care for those who can't care for themselves, comfort the sick. Consider joining or starting a church ministry to the elderly, handicapped, or other individuals with special needs. As Christians we must lead the way with our hearts and actions and not just our words. If we devote our energies to providing quality and loving care and effective pain control, the euthanasia issue will die from a lack of interest.

**Notes**

1. "Why is Life Worth Living: An Overview of Physician-Assisted Suicide." *The Battle for Life: An Educational Resource Kit*. Christian Medical and Dental Society, P.O. Box 5, Bristol TN 37621. 1996.

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7. "California's Proposition 161 and Euthanasia." 1992. *CURRENTS in Science, Technology, and Society* 1(2):11. Published by Access Research Network, P.O. Box 38069, Colorado Springs, CO 80937-8069.

8. Robin Bernhoft, M.D. 1995. Quoted in *Euthanasia: False Light*. Produced by IAETF, P.O. Box 760, Steubenville, OH 43952. Running time: 14:48.

9. *The Battle for Life* is an educational resource kit produced by the Christian Medical and Dental Society. The Kit includes an award winning video, *Euthanasia: False Light*, a leader's presentation guide with discussion questions, handouts for Christian and secular audiences, overhead transparencies, Biblical principles summary, research synopsis, cassette tape of public service announcements, and bulletin inserts. The Kit is available from the Christian Medical and Dental Society, P.O. Box 5, Bristol, TN 37621, Phone (615) 844-1000, FAX: (615) 844-1005. The retail price for the complete kit is $30.

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# Men Are From Mars, Women Are From Venus

## How Men and Women Differ

**[Sue]** Counselor John Gray made a ton of money—and found a ton of grateful fans—in writing his best-selling book *Men Are From Mars, Women Are From Venus*{1}. This book explored the intrinsic differences between men and women in a way that has helped millions of people understand why relationships between the two sexes can be so frustrating!

**[Ray]** In this essay we'll be examining some of the insights from this book, then looking at what the Bible says about how God wants men and women to relate to each other. It's no surprise that since God created us to be different, He knew all about those differences thousands of years ago when He gave very specific instructions for each gender!

**[Sue]** The whimsical premise of *Men Are From Mars* is that many years ago, all men lived on Mars, and all women lived on Venus. Once they got together, they respected and enjoyed their differences—until one day when everybody woke up completely forgetting that they had once come from different planets. And ever since, men mistakenly expect women to think and communicate and react the way men do, and women expect men to think and communicate and react the way women do. These unrealistic expectations cause frustration. But when we understand the God-given differences between male and female, we have more realistic expectations of the other sex, and our frustration level drops.

**[Ray]** Speaking of which, we do realize that it can be very frustrating for some people when gender differences are painted in such broad strokes, since there's such a large

spectrum of what women are like and what men are like. Both men and women come in different shapes and sizes but by and large, we feel that most will identify with these characteristics.

**[Sue]** With that said, let's look at some of the differences between men and women.

**[Ray]** Men get our sense of self from achievement. We tend to be task-oriented, and being self-reliant is very important to us. You put those two together, and you get people who hate to ask for directions or for help. I'll wander in a store for 15 minutes trying to find something on my own because accomplishing the task of getting a certain item isn't going to be satisfying unless I can do it on my own. For us, asking for help is an admission of failure; we see it as a weakness.

**[Sue]** Women get our sense of self from relationships. Where men are task-oriented, we are relational-oriented. Our connections to other people are the most important thing to us. Instead of prizing self- reliance, we tend to be inter-dependent, enjoying the connectedness to other people, especially other women. For us, both asking for help and offering it is a compliment; we're saying, "Let me build a bridge between us. I value you, and it'll bind us ."

**[Ray]** Men usually focus on a goal. We want to get to the bottom line, to the end of something.

**[Sue]** But women tend to enjoy the process. Not that reaching a goal isn't important, but we like getting there too. That's why driving vacations are so very different for men and women; the guys want to get to their destinations and beat their best time with the fewest stops, and we sort of treasure the time to talk and look and maybe stop at the outlet malls along the way!

## Gender Differences, Continued

**[Sue]** We believe these admittedly broad-brushed differences are rooted in God-created traits. In fact, some Christian authors like Gary Smalley and Stu Weber have addressed them in their books as well.{2} Ray, why don't you continue with the next point about men—something that's bound to be real surprising?

**[Ray]** Well, yes, men are competitive. Big shock, huh? Whether we're on the basketball court or on the highway, we just naturally want to win, to be out front. Many of us are driven to prove ourselves, to prove that we're competent, and it comes out in a competitive spirit.

**[Sue]** And it's not that girls aren't competitive, because of course we are; it's just that we tend to be more cooperative than competitive. When girls are playing and one gets hurt, the game will often stop and even be forgotten while everyone gathers around and comforts the one who went down. It's that relational part of us coming out.

**[Ray]** Men are often more logical and analytical than women.

**[Sue]** And we tend to be more intuitive than men. This isn't some sort of mystic claim; there was a study at Stanford University that discovered women catch subliminal messages faster and more accurately than men.{3} Voila—intuition.

**[Ray]** This difference is evident in brain activity. Men's brains tend to show activity in one hemisphere at a time . . .

**[Sue]** . . .Where women's brains will show the two hemispheres communicating with each other, back and forth, constantly. That means that often, men and women can arrive at the exact same conclusion, using completely different means to get there. Our thinking has been accused of being convoluted, but it works!

**[Ray]** Men are linear. We can usually focus on just one thing at a time. That's why you've learned not to try to talk to me while I'm reading the paper. I really struggle to read and listen at the same time.

**[Sue]** Yes, I've learned to get your attention and ask if I can talk to you so it'll be an actual conversation and not a monologue! God made us women to be multi-taskers, able to juggle many things at once. It's a requirement for mothering, I've discovered. Many times I'd be cooking dinner and helping the kids with homework and answering the phone and keeping an ear on the radio, all at the same time.

**[Ray]** Men tend to be compartmentalized, like a chest of drawers: work in one drawer, relationships in another drawer, sports in a third drawer, and so on. All the various parts of our lives can be split off from each other.

**[Sue]** Whereas women are more like a ball of yarn where everything's connected to everything else. That's why a woman can't get romantic when there's some unresolved anger or frustration with her husband, and he doesn't see what the two things have to do with each other.

**[Ray]** One more; men are action-oriented. When we feel hostile, our first instinct is to release it physically. And when we're upset, the way for us to feel better is to actively solve the problem.

**[Sue]** Women are verbal. (Another big surprise, huh?) Our hostility is released with words rather than fists. And when we're upset, the way for us to feel better is by talking about our problem with other people.

## More Gender Differences

**[Ray]** When men are under stress, we generally distract ourselves with various activities to relax. That's why you see so many men head for the nearest basketball hoop or bury

themselves in the paper or TV. But there's another aspect of the way we handle severe stress that can be particularly frustrating to women who don't understand the way we are: a man withdraws into his "cave." We need to be apart from everybody else while we figure out our problems alone. Remember, a man is very self-reliant and competitive, and to ask for help is weakness, so he will first want to solve the problem by himself.

**[Sue]** We women handle stress in the exact opposite way, which of course is going to pose major problems until we understand this difference! When we're stressed, we get more involved with other people. We want to talk about what's upsetting us, because we process information and feelings by putting them into words. But merely talking is only half of it; we talk in order to be heard and understood. Having a good listener on the other end is extremely important. No wonder there is such misunderstanding when people are under stress: as a friend of ours put it, "Men head for their cave, and women head for the back door!"

**[Ray]** John Gray gave some great advice when he said that when a man's going into his cave, he can give powerful assurance to the woman in his life by telling her, "I'll be back."

**[Sue]** Works for me! What's next?

**[Ray]** A man's primary need is for respect. There are a lot of elements involved in respect, which he needs both from his peers and from the significant women in his life: trust, acceptance, appreciation, admiration, approval, and encouragement. A man needs to know he's respected. He also needs to be needed. That's why it's so devastating to a man when he loses his job. He gets his sense of self from achievement, and he needs to be needed, so when the means to achieve and provide for his family is taken away, it's emotionally catastrophic.

**[Sue]** It's good for us women to know that, so we can be grace-givers in a time of awful trauma. I think that just as a man is devastated by the loss of his job, a woman is devastated by the loss of a close relationship; both losses reflect the God-given differences between us. Just as a man needs to be respected, we primarily need to be cherished. Cherishing means giving tender care, understanding, respect, devotion, validation, and reassurance. We need to know others think we're special. And just as a man needs to be needed, we need to be protected. That's why security is so important to us. A man needs to be able to provide, and a woman needs to feel provided for.

**[Ray]** One final difference. For men, words are simply for conveying facts and information.

**[Sue**] But for women, words mean much more. Not just to convey information, but to explore and discover our thoughts and feelings, to help us feel better when we're upset, and it's the only way we have to create intimacy. To a woman, words are like breathing!

## Women's Needs and Issues

**[Ray]** We have been examining how God created men and women to be different. So it's not surprising to find how many of our uniquenesses and needs are addressed by God's commands and precepts in the Bible.

**[Sue]** In this section we'll consider women's needs and issues, and look at how God's commands fit perfectly with the observations we've made. In the next section, we'll look at men's needs.

As I said above, our primary need as women is to be cherished—to be shown TLC, understanding, respect, devotion, validation, and reassurance.

**[Ray]** And in Ephesians 5:25, we read God's command that

addresses this need: “Husbands, love your wives, just as Christ also loved the church and gave Himself up for her.” When we think about the way Christ loves the church, we see a sacrificial love, a tender love, and a love that is committed to acting in the church’s best interests at our Savior’s own expense. God doesn’t just want men to love their wives like they love sports—He wants us to love our wives in a way that makes them feel cherished and very special. He wants us to love our wives with a sacrificial love that puts her needs and desires above our own.

1 Peter 3:7 gives further instruction along this line: “You husbands likewise, live with your wives in an understanding way.” The Greek literally reads, “Dwell with them according to knowledge.” The only way to live with your wife in an understanding way is to seek to know her. And when a husband listens and responds to what his wife shares—remembering that women are created to be verbal—she will feel cherished and understood and loved.

The last part of 1 Peter 3:7 continues, “live with your wives in an understanding way, as with a weaker vessel, since she is a woman.” This isn’t a slam on women. When we read this verse, we ought to think along the lines of a fine china cup. It’s definitely weaker than a tin cup, but that’s because it’s so fragile, delicate, and far more valuable. When we serve dinner on our china, we’re very careful in handling it, and extremely protective of washing and drying it. We treat our china with tenderness and gentleness because of its fragility and value. That’s how we cherish it. And that’s how a man is to treat his wife—not roughly or carelessly, but with tenderness and gentleness, because God made women to be treated with special care.

**[Sue]** The flip side of needing to be cherished is our need for security. We need to be protected and provided for. Even when a wife works, she wants to know that her husband is the main provider, or at least truly wants to be and is working to that

end. The burden of being forced to provide for our families is bigger than we should have to bear.

**[Ray]** God created that need for security within women. That's why He puts such a high value on the provisional aspect of a man's character. 1 Timothy 5:8 says, "If anyone does not provide for his relatives, and especially for his immediate family, he has denied the faith and is worse than an unbeliever." God wants us men to be diligent workers and providers. He created us to bear the burden of providing; women are to be protected from that burden whenever possible.

## Men's Needs and Issues

**[Ray]** Men's primary need is for respect and support—to receive trust, acceptance, appreciation, admiration, approval and encouragement.

**[Sue]** I think God intends for wives to meet that need by submitting to our husbands, as we are commanded to do in Ephesians 5:22 and 1 Peter 3:1. Submission doesn't mean giving in or being an overworked doormat; it's a gift of our will. It means submitting to God first, then demonstrating that submission by choosing to serve and respect and be our husband's Number One supporter. Even when a man is more of a jerk than a Superman, he needs the respect of his wife, even if she has to ask the Lord for His perspective on what areas of his life are worthy of respect!

It's interesting to me that in Ephesians 5, at the beginning of the passage on marriage, Paul exhorts women to submit to their husbands as unto the Lord, and then closes this section by saying, "And let the wife see to it that she respect her husband."(v. 33) Submission and respect aren't the same thing, but they're both necessary to meet a man's God-given needs. In the middle of this "marriage sandwich," so to speak, is the awesome command to men to love their wives sacrificially and tenderly, as Christ loves the church. What I see is that

submission and respect is a natural response to that kind of love.

**[Ray]** Another aspect of men's constitution is that we're action-oriented, whereas women are verbal.

**[Sue]** Yes, and that's why I'm very intrigued by the wisdom of Peter's admonishment to women, where he says,

> *You wives, be submissive to your own husbands so that even if any of them are disobedient to the word, they may be won without a word by the behavior of their wives, as they observe your chaste and respectful behavior. (1 Peter 3:1-2)*

To men, words are cheap—and if they're coming from a woman, all too plentiful! What impresses a man is what a person does, not what they say. So here the Holy Spirit inspired Peter to basically tell us to shut up and live holy lives, which is the only language that's going to have a true impact on a man.

[Ray] Another characteristic of men is that we tend to be self-oriented, as opposed to women who are more relational.

[Sue] It's interesting to me that Paul exhorts men to love their wives as they love themselves and their own bodies (Ephesians 5:28,33). And he does this without condemning them for that self- orientation; he just uses it as a point of reference to demonstrate how powerfully men are to love their wives. From what I've observed at the health club about the way some men love their bodies, God wants men to indulge their wives with some major pampering!

[Ray] One last comment. While men and women may be constitutionally different by design, we do share one important and serious flaw: our sin nature. Both genders are prideful and selfish. And that is one reason we find commands to both men and women to serve the other sex. But in the midst of our service, we can certainly enjoy the differences God

planted!

**Notes**

1. Gray, John. *Men Are From Mars, Women Are From Venus*. New York: HarperCollins Publishers, 1992.

2. Smalley, Gary. *Hidden Keys to a Loving Lasting Marriage*. Grand Rapids: Zondervan Publishing, 1984. Weber, Stu. *Tender Warrior*. Sisters, Ore.:Multnomah Books, 1993.

3. Smalley, *Hidden Keys*, p. 17.

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