Agenda Item: **3F6**

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS

AGENDA ITEM SUMMARY

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Meeting Date: April 7, 2020

[X] Consent **[ ] Regular**
[ ] Workshop **[ ] Public Hearing**

Submitted By: Department of Airports

==========

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to receive and file: Registration for Distribution of Literature or Picketing (Registration) at the Palm Beach International Airport (PBI) issued to South Florida Public Witnessing, Inc. (SFPW), authorizing its members to distribute literature at PBI, effective February 6 2020, and expiring February 6, 2021, at no cost.

Summary: The Registration authorizes designated members of SFPW to distribute literature at PBI, in locations designated by the Department of Airports, in accordance with the Airport Rules and Regulations (R-98-220 as amended). A sample of the literature to be distributed is attached to the Registration. The standard form Registration was approved by the Board on October 3, 1995 (R-95-1410). **Countywide (AH)**

Background and Justification: SFPW requested authorization to allow its members to distribute literature at PBI. The Registration establishes terms and conditions by which SFPW members may distribute literature and is not an endorsement by the County, or by any of its departments, officers or employees, as to the content of the literature.

Attachments: Registration (1)

==========

Recommended By: _____ 3-6-20
Department Director **Date**

Approved By: _____ 3/17/2020
County Administrator **Date**

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2020	2021	2022	2023	2024
Capital Expenditures					
Operating Costs					
Operating Revenues					
Program Income (County)					
In-Kind Match (County)					
NET FISCAL IMPACT	$-0-	$-0-	$-0-	$-0-	$-0-
# ADDITIONAL FTE POSITIONS (Cumulative)					

Is Item Included in Current Budget? Yes ____ No X
Does this item include the use of federal funds? Yes ___ No X

Budget Account No: Fund ____ Department ___Unit _____ RSource _____
Reporting Category _____

B. Recommended Sources of Funds/Summary of Fiscal Impact:

No fiscal impact.

C. Departmental Fiscal Review:

III. REVIEW COMMENTS

A. OFMB Fiscal and/or Contract Development and Control Comments:

3/10/2020
OFMB 3/11

3/13/2020
Contract Dev. and Control 3/12/2020

B. Legal Sufficiency:

Anne Odelgant 3-13-2020
Assistant County Attorney

C. Other Department Review:

_____
Department Director

REVISED 11/17

(THIS SUMMARY IS NOT TO BE USED AS A BASIS FOR PAYMENT)

CERTIFICATE
(Corporation)

The undersigned hereby certifies that the following are true and correct statements:

1. That Freddie N Fitzgerald, Jr is the Secretary of South Florida Public Witnessing, Inc., a corporation organized and existing in good standing under the laws of the State of Florida, hereinafter referred to as the "Corporation", and that the following Resolutions are true and correct copies of certain Resolutions adopted by the Board of Directors of the Corporation as of the 4th day of February, 2020, in accordance with the laws of the State of Florida, the Articles of Incorporation and the By-laws of the Corporation:

RESOLVED, that the Corporation shall enter into that certain Registration for Distribution of Literature or Picketing between Palm Beach County, a political subdivision of the State of Florida and the Corporation (the "Agreement"), a copy of which is attached hereto; and be it

FURTHER RESOLVED, that Victor Colon, the Chief Executive Officer of the Corporation, is hereby authorized and instructed to execute such Agreement and such other instruments as may be necessary and appropriate for the Corporation to fulfill its obligations under the Agreement.

2. That the foregoing resolutions have not been modified, amended, rescinded, revoked or otherwise changed and remain in full force and effect as of the date hereof.

3. That the Corporation is in good standing under the laws of the State of Florida, and has qualified, if legally required, to do business in the State of Florida and has the full power and authority to enter into such Agreement.

IN WITNESS WHEREOF, the undersigned has set his hand and affixed the Corporate Seal of the Corporation the 4th day of February, 2020.

[Signature]

Corporate Seal

Freddie N Fitzgerald, Jr, Secretary
(print name)

Section 2-6.

PALM BEACH COUNTY
DEPARTMENT OF AIRPORTS

REGISTRATION
FOR
DISTRIBUTION OF LITERATURE OR PICKETING

PALM BEACH INTERNATIONAL AIRPORT

Identification Number _____ Date 02/04/20

PLEASE TYPE OR PRINT IN INK THE REQUESTED INFORMATION

1. Full Name, Address and Telephone Number of Applicant (sponsor, promoter or organizer): South Florida Public Witnessing, Inc.
401 East Las Olas Blvd, Suite 130-297, Fort Lauderdale, FL 33301, (954) 650-0196

2. The full name, address, and telephone number of each person who will participate in the authorized activities and of the authorized person(s) who shall have direct supervision of and formal responsibility for the proposed activities. In the alternative, the applicant may identify on the application one or more individuals who will act as coordinators or group leaders and, at the beginning of each day's activities, provide to the Director the names and other information required by this subsection regarding the individuals who will be participating in the applicant's activities on that day:
James V. Carter II, 9134 Bay Point Circle, West Palm Beach Fl 33411, (561) 632-9387
Victor Colón, 4785 NW 76th Street, Coconut Creek, FL 33073, (954) 650-0196
Patrick Jean-Pierre, 2491 Westmont Lane, Royal Palm Beach, 33411, (561) 676-9255

3. Briefly describe the nature of the activity proposed to be conducted, its purpose, and the type of communication to be involved:
Distribution of literature

4. (a) The desired date or dates for conducting said activity is:
From 02/06/20 Through 02/06/21
[Attach schedule for seven (7) or more consecutive days]

(b) The desired times of day during which said activity is to occur:
6:00am [A.M.] [P.M.] Through 10:00pm [A.M.] [P.M.]

(c) The number of people who shall participate in said activity:
8 - (2 at each location)

5. If applicable, submit one copy of any and all literature, hand-outs or other materials or items requesting to be distributed as part of the proposed activities.

6. Applicant hereby expressly, covenants and agrees that if this Registration for Distribution of Literature or Picketing is approved pursuant to this Registration and the accompanying Rules and Regulations for same, applicant shall, as a condition of this Registration, indemnify Palm Beach County pursuant to the following provision which applicant acknowledges and agrees is made a part of and incorporated herein, without the necessity of any further action by the parties hereto:

"REGISTRANT agrees to protect, defend, reimburse, indemnify and hold Palm Beach County (the "COUNTY"), its agents, employees and elected officers and each of them, free and harmless at all times from and against any and all claims, liability, expenses, losses, costs, fines and damages (including attorney fees) and causes of action of every kind and character against or from COUNTY by reason of any damage to property or the environment, or bodily injury (including death) incurred or sustained by any party hereto, or of any party acquiring any interest hereunder, any agent or employee of any party hereto or of any party acquiring an interest hereunder, and any third or other party whomsoever, or any governmental agency, arising out of or incident to or in connection with this Registration, the conditions of the Airport terminal building, REGISTRANT's acts, omissions or operations hereunder, or the performance, non-performance or purported performance of the REGISTRANT or any breach of the terms of this Registration; provided, however, the REGISTRANT shall not be responsible to COUNTY for damages resulting out of bodily injury or damages to property which REGISTRANT can establish as being attributable to the sole negligence of COUNTY, its respective agents, servants, employees or officers. REGISTRANT further agrees to hold harmless and indemnify COUNTY for any fines, citations, court judgments, insurance claims, restoration costs or other liability resulting from its activities on the Airport. Said indemnification shall be extended to include all deliverers, suppliers or others who may enter onto the Airport at the request of the REGISTRANT. REGISTRANT recognizes the broad nature of this indemnification and hold harmless clause, and voluntarily makes said covenant in recognition of the valuable consideration provided by COUNTY under this Registration. This clause shall survive the termination of this Registration."

7. Applicant hereby agrees that the Registration, if granted, will not be used or represented in any way as an endorsement by the County, or by any of its departments, officers or employees thereof.

8. Applicant hereby acknowledges that it has received, read and fully understands the Rules and Regulations for Distribution of Literature or Picketing and expressly covenants and agrees that it shall strictly adhere to all such Rules and Regulations as same exist now or as may hereafter be amended, modified or superseded.

Applicant: Victor Colón

Victor Colón 02/04/20

Applicant's Authorized Representative — Date

Approval:
Registration for Distribution of Literature or Picketing is hereby approved by:

Laura Beebe 2/25/20

For: Director — Date
Airports Department
Palm Beach County

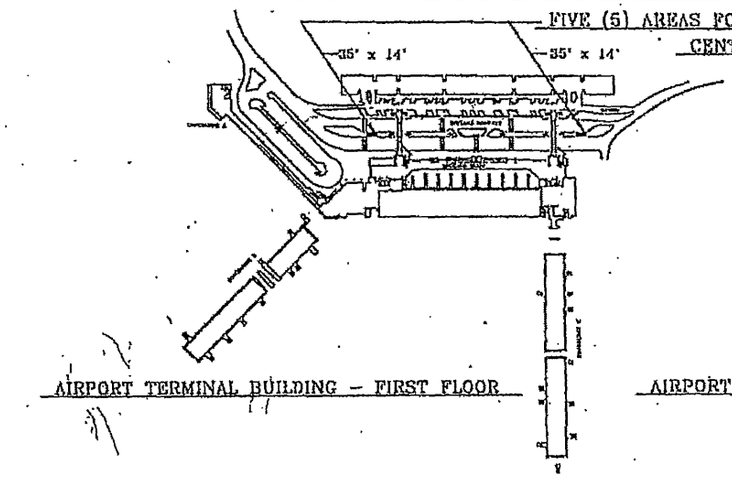
APPROVED AS TO FORM AND LEGAL SUFFICIENCY

Anne Helgant

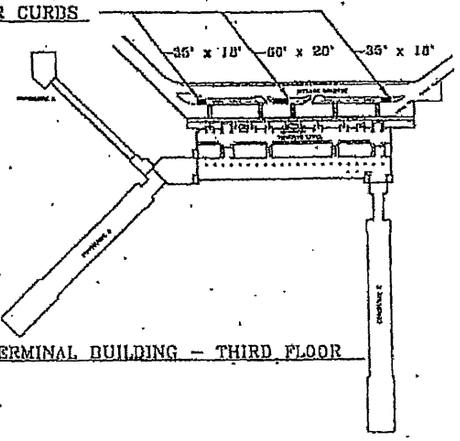
COUNTY ATTORNEY

FIVE (5) AREAS FOR PERMITTED PICKETING

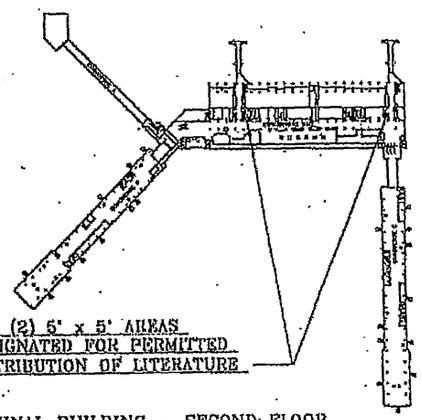
CENTER CURBS



AIRPORT TERMINAL BUILDING – FIRST FLOOR



AIRPORT TERMINAL BUILDING – THIRD FLOOR



TWO (2) 5' x 5' AREAS DESIGNATED FOR PERMITTED DISTRIBUTION OF LITERATURE

AIRPORT TERMINAL BUILDING – SECOND FLOOR

PALM BEACH INTERNATIONAL AIRPORT

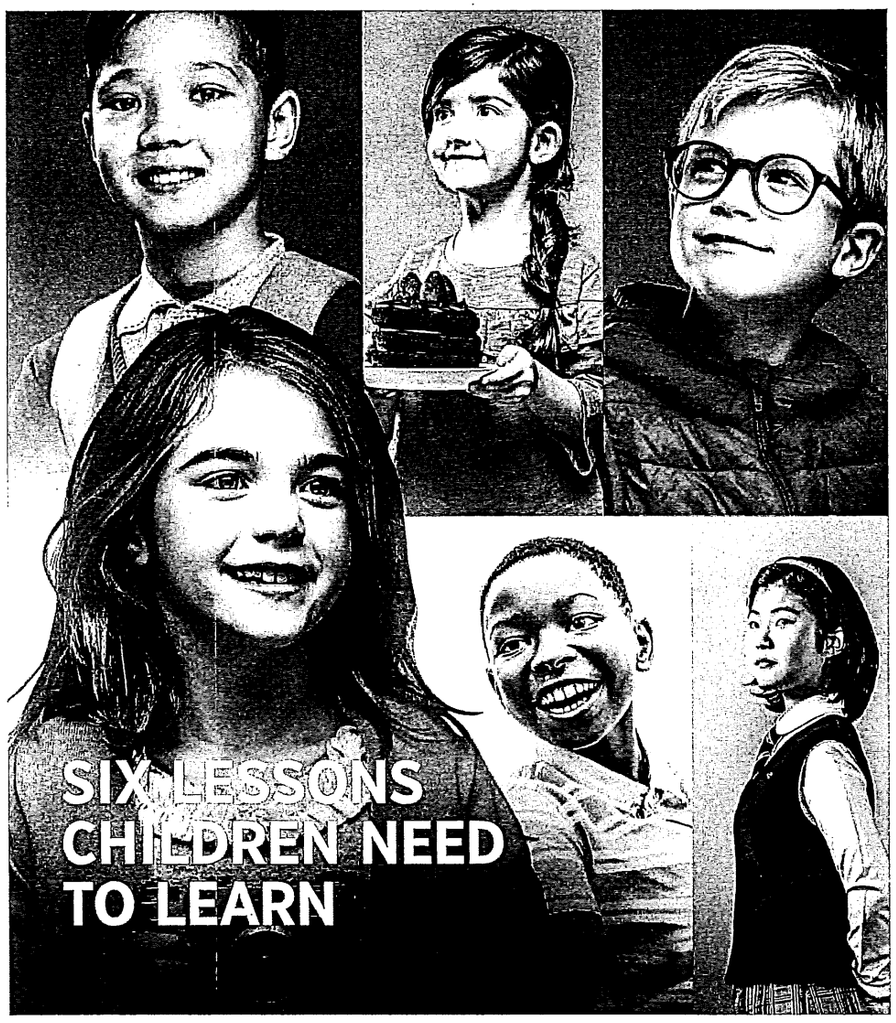
EXHIBIT "2-6. A."

REGISTRATION FOR DISTRIBUTION

PALM BEACH COUNTY
DEPARTMENT OF AIRPORTS
PALM BEACH INTERNATIONAL AIRPORT

Awake!

No. 2 2019



Awake!®

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For a complete list of worldwide addresses, see www.jw.org/en/contact.

INTRODUCTION

Six Lessons Children Need to Learn

How would you like your child to be known as an adult?

- Controlled
- Humble
- Resilient
- Responsible
- Mature
- Honest

Children will not develop these traits on their own. They need your guidance.

This magazine will discuss six essential lessons that you can teach your children—lessons that will prepare them for adulthood.

TABLE OF CONTENTS

Six Lessons Children Need to Learn

LESSON 1

THE BENEFITS OF SELF-CONTROL

WHAT IS SELF-CONTROL?

Self-control includes the ability to

- delay gratification
- restrain impulses
- complete unpleasant tasks
- put others before self

WHY IS SELF-CONTROL IMPORTANT?

Children who have greater self-control can resist temptation, even if the temptation promises short-term rewards. In contrast, children with less self-control may be more likely to

- be aggressive
- suffer depression
- smoke or abuse alcohol or drugs
- make poor choices in what they eat

One study found that children with greater self-control were less likely, as adults, to have health issues, financial stress, and problems with the law. That study led Professor Angela Duckworth of the University of Pennsylvania to conclude: "There may be no such thing as 'too much' self-control."

HOW TO TEACH SELF-CONTROL

Learn to say no and mean it.

BIBLE PRINCIPLE: "Let your word 'Yes' mean yes, your 'No,' no."—Matthew 5:37.

Young children might test a parent's resolve by throwing a tantrum—perhaps even in public. If the parent gives in, the child learns that tantrums are an effective way to get a no changed to a yes.

> Saying no to your child now will help him to say no to himself later in life—for example, if he is tempted to take drugs or to engage in other harmful practices

On the other hand, if the parent says no and means it, the child learns a basic fact of life—that *we cannot always get what we want.* "Ironically, people who learn that lesson seem to be the most fulfilled," writes Dr. David Walsh. "We're not doing our kids any favors when we teach them that the world will always serve up whatever they want on a silver platter."*

Saying no to your child now will help him to say no to himself later in life—for example, if he is tempted to take drugs, have premarital sex, or engage in other harmful practices.

* From the book *No: Why Kids—of All Ages—Need to Hear It and Ways Parents Can Say It.*

Help your children to understand consequences, both good and bad.

BIBLE PRINCIPLE: "Whatever a person is sowing, this he will also reap."—Galatians 6:7.

Your child needs to understand that actions have consequences and that a lack of self-control will therefore have undesirable results. For example, if your son typically loses his temper when he gets upset, others may tend to avoid him. On the other hand, if he develops the ability to restrain himself when provoked—or to wait patiently rather than interrupt—people will be drawn to him. Help your child understand that he is more likely to have good outcomes when he practices self-restraint.

Teach your child to prioritize.

BIBLE PRINCIPLE: "Make sure of the more important things."—Philippians 1:10.

Self-control is not just a matter of holding back from doing wrong; it includes doing what is necessary, even when this is not particularly exciting or fun. It is important for your child to learn how to establish priorities and stick to them. Have your child do the important things first. For example, he should put homework before recreation.

Be a good role model.

BIBLE PRINCIPLE: "I set the pattern for you, that just as I did to you, you should also do."—John 13:15.

Your child will see how you respond to unpleasant or frustrating situations. Demonstrate by your example that self-control leads to better outcomes. For example, when your child tests your patience, do you react with anger or do you remain calm?

Teach by Example

- Does my child see me work through frustrating situations without losing my temper?
- Have I explained to my child the reasons why I try to handle problems calmly?
- How would my child describe me—as impulsive and quick-tempered or as self-disciplined and controlled?

What We Did . . .

"Even though our daughter was allowed to become frustrated or angry, she wasn't allowed to let those feelings exasperate those around her. If she couldn't control herself, then she would be removed from others' company until she could calm down."—Theresa.

"My wife and I made it our aim to let our children know when they made us proud. We praised them when they didn't allow difficulty to get them out of sorts or when they kept their cool and showed self-control."—Wayne.

LESSON 2

HOW TO BE HUMBLE

WHAT IS HUMILITY?

Humble people are respectful. They do not behave arrogantly, nor do they expect others to treat them as special. Rather, a person with humility takes genuine interest in others and is willing to learn from them.

Sometimes humility is misjudged as a weakness. In reality, it is a strength that helps people recognize their faults and acknowledge their limitations.

WHY IS HUMILITY IMPORTANT?

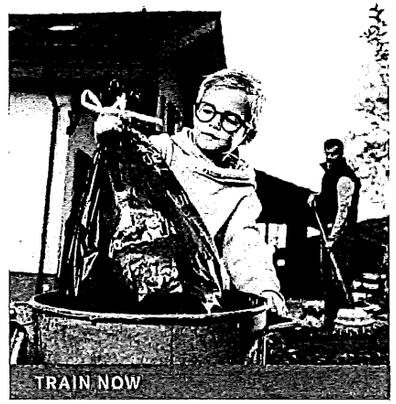
- **Humility benefits relationships.** "Overall, humble people are more connected to others," says the book *The Narcissism Epidemic.* It adds that such people find it "easier to relate to other people and the wider world."
- **Humility benefits your child's future.** Learning to be humble will help your child both now and later in life—for example, when seeking employment. "The young person with bloated self-esteem, unaware of her own deficiencies, is unlikely to do well in the job interview," writes Dr. Leonard Sax. "But the young person who is genuinely interested in what the recruiter has to say is more likely to get the job."*

HOW TO TEACH HUMILITY

Encourage a balanced view of self.

BIBLE PRINCIPLE: "If anyone thinks he is something when he is nothing, he is deceiving himself."—Galatians 6:3.

- **Avoid misleading maxims.** Sayings like "All your dreams can come true" and "You can be anything that you want to be" might *sound* inspiring, but they often do not prove true in real life. Your children will likely be more successful if they have reasonable goals and work hard to achieve them.
- **Praise specific actions.** Simply telling a child that he or she is "awesome" does not encourage humility. Be specific.
- **Limit your child's use of social media.** Often, social media is linked with self-promotion—broadcasting a person's talents and accomplishments—the very opposite of humility.
- **Encourage your child to apologize quickly.** Help your child to see where he is wrong and to acknowledge it.



A child who learns to perform humble tasks at home is more likely to work well with others as an adult

* From the book *The Collapse of Parenting.*

Promote gratitude.

BIBLE PRINCIPLE: "Show yourselves thankful." —Colossians 3:15.

- **Gratitude for creation.** Children should appreciate nature and how much we depend on it for survival. We need air to breathe, water to drink, and food to eat. Use these examples to instill appreciation, awe, and gratitude for the wonders of the natural world.
- **Gratitude for people.** Remind your child that everyone is superior to him in one way or another and that instead of being jealous of others' skills and abilities, he can learn from them.
- **Expressing gratitude.** Teach your children to say "thank you," not just with words but with genuine appreciation. A grateful spirit has been called a building block of humility.

Teach your children that there is value in serving others.

BIBLE PRINCIPLE: "With humility consider others superior to you, as you look out not only for your own interests, but also for the interests of others."—Philippians 2:3, 4.

- **Expect your child to do chores.** Exempting your child from family chores might give him the message, 'You are too important to do this!' Family duties should come first, and playing second. Point out how chores benefit others and how others will appreciate and respect him for doing them.
- **Emphasize that serving others is a privilege.** Doing so is a primary way to develop maturity. Therefore, encourage your child to identify those in need. Discuss with him what he can do to help them. Commend and support your child as he serves others.

Teach by Example

- Do I let my children know that at times I also need help from others?
- Do I speak positively and appreciatively about others, or do I belittle them?
- Do my children see that I value serving others?

What We Did . . .

"Our daughter told us about a classmate who, she said, is mean to others and is not liked. I told her to think of what that girl might be going through at home. After all, not everybody has a good family life. That helped our daughter to see that she is not better than others. She may just have better circumstances."—Karen.

"We encourage our daughters to enjoy what they learn in school and simply to do their best without comparing themselves to others. We want them to know that we will not compare them to others either."—Marianna.

LESSON 3

HOW TO BE RESILIENT

WHAT IS RESILIENCE?

A resilient person bounces back from obstacles and disappointments. This skill is acquired through experience. Just as a child cannot learn how to walk without an occasional fall, he cannot learn how to succeed in life without experiencing occasional setbacks.

WHY IS RESILIENCE IMPORTANT?

Some children get discouraged when they meet with failure, adversity, or criticism. Others give up entirely. However, they need to understand the following facts:

- Failure is inevitable in some endeavors. —James 3:2.
- Adversity affects everyone at some point. —Ecclesiastes 9:11.
- Correction is vital for learning. —Proverbs 9:9.

Resilience will help your child face life's challenges with confidence.

HOW TO TEACH RESILIENCE

When your child fails.

BIBLE PRINCIPLE: "The righteous one may fall seven times, and he will get up again." —Proverbs 24:16.

Help your child put things in perspective. For example, what would he do if he failed a test at school? He might give up, saying, "I can't do anything right!"

To teach resilience, help your child work out a strategy that will help him to improve. In this way, he will take charge of the problem rather than become a victim of it.

A child who is able to bounce back from disappointments and mistakes is more likely to persevere when learning skills and to become proficient at them

At the same time, avoid fixing the problem for your child. Instead, help him create his own plan. You might ask him, "What can you do to improve your understanding of the subject that is being taught?"

When adversity strikes.

BIBLE PRINCIPLE: "You do not know what your life will be like tomorrow."—James 4:14.

Life is unpredictable. A person who is rich today might be poor tomorrow; a person who is healthy today might be sick tomorrow. "The swift do not always win the race, nor do the mighty win the

battle," says the Bible, "because time and unexpected events overtake them all."—Ecclesiastes 9:11.

As a parent, you rightly take reasonable steps to protect your child from danger. Realistically, though, it is not possible to shield your child from all of life's adversities.

Of course, your child may not be old enough to experience the loss of a job or a financial reversal. Still, you can help him cope with other adversities—for example, the loss of a friendship or the death of a family member.*

When your child receives constructive criticism.

BIBLE PRINCIPLE: "Listen to counsel . . . in order to become wise in your future."—Proverbs 19:20.

Constructive criticism is not bullying; it is guidance that addresses an action or an attitude that needs to change.

When you teach your child to accept correction, both of you are spared much grief. "If children are always rescued from their errors," says a father named John, "they will never learn. They will jump from one problem to the next, and you will spend your life following them, stomping out the fires that they cause. That makes life miserable for the parents *and* the child."

How can you help your child benefit from constructive criticism? When your child receives it—whether at school or anywhere else—resist the urge to say that the correction is unfair. Instead, you could ask:

- "Why do you think the correction was given?"
- "How can you improve?"
- "What will you do the next time you are in this situation?"

Remember, constructive criticism will serve your child well, not only now but also in adulthood.

* See the article "Help Your Child Cope With Grief," in the July 1, 2008, issue of *The Watchtower*.

Teach by Example

- Do I admit my mistakes, or do I blame others?
- Do I talk about my failures and what I learned from them?
- Do I ridicule others for their mistakes?

What We Did . . .

"We did not protect our children from every challenge, failure, or mistake. When I was young, enduring those things made me a better person. I feel that both of our children grew up to be balanced, well-adjusted adults because they were not pampered."—Jeff.

"When my wife and I made mistakes with our children, we would always apologize. I believe that parents should share their own mistakes, setbacks, and errors with their children to emphasize that it's just part of life."—James.

LESSON 4

HOW TO BE RESPONSIBLE

Children who are taught to be responsible will be able to manage their life more effectively as adults

WHAT DOES BEING RESPONSIBLE INVOLVE?

People who are responsible are reliable. They follow through on assigned tasks and complete them on time.

Even with their limited capabilities, very young children can start learning to be responsible. "A child's capacity to cooperate begins by fifteen months, and his desire to start willingly pitching in starts at around eighteen months," says the book *Parenting Without Borders*. "In many cultures parents begin to hone their children's helpfulness especially between the ages of five and seven, and children this young competently assist in many domestic tasks."

WHY IS BEING RESPONSIBLE IMPORTANT?

The term "boomerang generation" describes young adults who leave home and try to live on their own but fall on hard times and return to Mom and Dad. In some cases, this happens because the youth has never been taught to manage money, run a household, or live up to daily responsibilities.

Therefore, it is best if you train your children for the responsibilities of adulthood. "You don't want to keep them dependent upon you until they turn eighteen and then dump them out into the real world," says the book *How to Raise an Adult*.

HOW TO TEACH RESPONSIBILITY

Assign chores.

BIBLE PRINCIPLE: "There is benefit in every kind of hard work."—Proverbs 14:23.

Young children are eager to work alongside their parents. You can take advantage of this natural inclination by assigning your children chores around the home.

Some parents are reluctant to do that. They reason that their school-age children face a mountain of homework each day, so why add to their burden?

However, children who do chores are more likely to succeed at school, since chores teach them to accept assignments and complete tasks. Besides, notes the book *Parenting Without Borders*, "when we ignore our children's eagerness to participate when they are younger, they internalize the idea that contributing is unimportant . . . They also begin to expect that things will be done for them."

As that quote indicates, doing chores trains children to be contributors rather than consumers, givers rather than takers. Chores help children realize that they have a valued place in the family—and a responsibility toward it.

Help your children take responsibility for their mistakes.

BIBLE PRINCIPLE: "Listen to counsel and accept discipline, in order to become wise in your future." —Proverbs 19:20.

When your children make mistakes—for example, if your son or daughter accidentally damages another person's property—resist the urge to cover up what happened. Children can accept the consequences—in this case, apologizing and perhaps even making restitution.

Owning up to mistakes and failures will teach your children

- to be honest and admit their errors
- to avoid blaming others
- to avoid making excuses
- to apologize, when appropriate

THE BENEFITS OF CONSEQUENCES

"Children make mistakes, and when they do, it's vital that parents remember that the educational benefits of consequences are a gift," writes educator Jessica Lahey in the *Atlantic* magazine. "Year after year, my 'best' students—the ones who are happiest and successful in their lives—are the students who were allowed to fail, held responsible for missteps, and challenged to be the best people they could be in the face of their mistakes."

Teach by Example

- Am I industrious, organized, and punctual?
- Do my children see me working around the home?
- Do I acknowledge my mistakes, even apologizing when necessary?

What We Did . . .

"If I was making dinner, the children helped from a very young age. If I was folding laundry, they folded some too. If I was dusting, they dusted. Work became fun for them. They were happy just to be with me, doing what I was doing. That's how they learned to be responsible." —Laura.

"Once, I had our young son call a family friend and tell her he was sorry for being rude. Over the years he's had to apologize on numerous occasions for saying honest but unkind things, but now he has learned to apologize freely when he makes a mistake."—Debra.

LESSON 5

THE VALUE OF ADULT GUIDANCE

WHAT DOES ADULT GUIDANCE INVOLVE?

Children need adults in their life who can provide leadership and advice. As a parent, you are in the best position to fulfill that role; in fact, it is your duty. However, other adults can be mentors to your children as well.

WHY IS ADULT GUIDANCE IMPORTANT?

In many lands, young people have little interaction with adults. Consider this:

- Children spend much of their day at school, where students outnumber teachers and other adults.
- After school, some youths return to a home that is empty because both parents have to work.
- One study found that in the United States, children between 8 and 12 years of age spend an average of about six hours on entertainment media each day.*

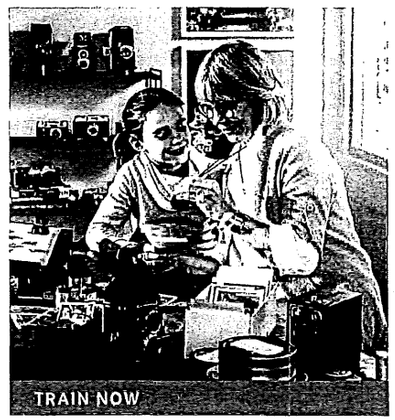
The book *Hold On to Your Kids* says: "Young people are turning for instruction, modeling, and guidance not to mothers, fathers, teachers, and other responsible adults but to . . . their own peers."

HOW TO PROVIDE GUIDANCE

Spend time with your children.

BIBLE PRINCIPLE: "Train a child in the way he should go; even when he grows old he will not depart from it."—Proverbs 22:6, footnote.

* The study found that on average, teenagers spend nearly nine hours per day on entertainment media. These statistics for young children and teenagers do not include time spent online at school or doing homework.



A child who looks to adults for guidance is more likely to display wisdom and maturity later in life

Children naturally look to their parents for guidance. In fact, experts say that even as children enter the teen years, they tend to value the advice of their parents over that of their peers. "Parents remain the major influence on their child's attitudes and behavior through adolescence and into young adulthood," writes Dr. Laurence Steinberg in the book *You and Your Adolescent*. He adds: "Adolescents care what you think and listen to what you say, even if they don't always admit it or agree with every point."

Take advantage of your children's natural inclination to look up to you. Spend time with your children and share your viewpoints, values, and experiences with them.

Provide a mentor.

BIBLE PRINCIPLE: "The one walking with the wise will become wise."—Proverbs 13:20.

Can you think of an adult who might be a good role model for your adolescent? Why not arrange for that person to spend time with him or her? Of course, you should not abdicate your parental authority. But the encouragement from a trusted adult who you know will not harm your child can supplement the training you provide. In the Bible, Timothy—even as an adult—benefited greatly from the association he had with the apostle Paul, and Paul benefited from Timothy's companionship.—Philippians 2:20, 22.

During the past century, many families have become somewhat fragmented, as grandparents, uncles, aunts, and other relatives may live in another part of the world. If that is true in your case, try to provide your teens with opportunities to learn from adults who have traits that you would like to see in your children.

SPENDING TIME WITH ADULTS

"My children have grown up around a diverse group of adults, and this has helped them to see life through other people's experiences. For example, they were amazed when my grandmother told them that when she was a little girl, her family was the first one to get an electric light. She told them that people from surrounding areas came to their house just to stand in the kitchen and watch the light being turned on and off. That story made my children see how different life used to be. Learning about their great-grandmother in this way also helped them to have respect for her and for other older ones. When children spend more time with adults—and less with their peers—they are able to see life from a different perspective."—Maranda.

Teach by Example

- Am I a good role model for my children?
- Do I show my children that I too look up to those with greater experience as mentors?
- Do I demonstrate that my children are important to me by spending time with them?

What We Did . . .

"Sometimes when I am in the middle of something, my daughter will say she wants to talk. I always make sure that she is a priority, even if I have to tell her to wait a few minutes so that she can have my undivided attention. My wife and I also strive to set a good example so she will see that we live by the same principles we are teaching her."—David..

"When our daughter was born, my husband and I decided that I would not work but would stay home to help raise her. I do not regret that decision. It is very important to do as much as possible to be present in a child's life so that he or she will have proper guidance and direction. More important, being there shows your child that you care."—Lisa.

LESSON 6

THE NEED FOR MORAL VALUES

WHAT ARE MORAL VALUES?

People with moral values have a clear sense of right and wrong. Their moral code is not based on how they feel at the moment. Rather, it is founded on a firm set of principles that act as a guide for conduct—even when others are not watching.

WHY ARE MORAL VALUES IMPORTANT?

Children are bombarded with distorted messages about morals, whether from the people they go to school with, the music they listen to, or the movies and TV shows they watch. Such influences can challenge their beliefs about what is right and what is wrong.

That is especially true during the teen years. By that time, says the book *Beyond the Big Talk,* they "need to understand the intense peer and media pressures to be popular and accepted, and they need to learn to make decisions consistent with their own values and choices, even if that means going against their friends." Clearly, training needs to begin *before* adolescence.

Children who see their parents display honesty are more likely to resist temptations to be dishonest when on their own

HOW TO TEACH MORAL VALUES

Establish a moral code.

BIBLE PRINCIPLE: "Mature people . . . have their powers of discernment trained to distinguish both right and wrong."—Hebrews 5:14.

- **Build a moral vocabulary.** Point to everyday situations and highlight contrasts: "This is honest; that is dishonest." "This is loyal; that is disloyal." "This is kind; that is unkind." In time, your child will connect moral values with actions.
- **Explain the reasons for your moral code.** For example, ask questions such as: Why is honesty the best policy? How can lying damage friendships? Why is stealing wrong? Appeal to your child's developing conscience and sense of logic.
- **Emphasize the benefits of adhering to good morals.** You could say: "If you are honest, others will trust you" or "If you are kind, people will like being around you."

Make your moral code part of your family identity.

BIBLE PRINCIPLE: "Keep proving what you yourselves are."—2 Corinthians 13:5.

- Your moral code should be part of your family, so that you can truthfully say:

"In our family we do not lie."

"We do not hit others or scream at them."

"We do not approve of abusive speech."

Your child will see that moral values are not mere rules to follow but that they make up the family's identity.

- Frequently discuss your family values with your child. Use everyday situations as object lessons. You could compare your values with those presented in the media or in school. Ask your child questions like: "What would you have done?" "How would our family have handled this?"

Reinforce moral values.

BIBLE PRINCIPLE: "Maintain a good conscience." —1 Peter 3:16.

- **Commend good behavior.** If your child displays good moral values in what he does, praise him for it and explain why. For example, you could say: "You were honest. I am proud of you." If your child confesses to having done something wrong, sincerely commend him for his honesty before you correct him.
- **Correct bad behavior.** Help your children accept responsibility for their actions. Children should know *what* they did wrong and *how* their conduct deviates from the family's value system. Some parents are reluctant to make their child 'feel bad' about misbehavior, but discussing bad behavior with your child this way will help him develop a conscience that is sensitive to right and wrong.

For more information about parenting, go to jw.org, or scan code.

AWAKE! No. 2 2019

Teach by Example

- Do my children see in my actions and words that I live by the values that our family has adopted?
- Do my spouse and I promote the same values?
- Do I justify ignoring my moral code by saying or thinking, "This is OK for adults"?

What We Did . . .

"We used the experiences of others to show the benefits of good morals and compared the results they had with those of people who made unwise decisions. When our children told us about a peer who made a poor choice, we discussed it with them so that they would not go down the same path."—Nicole.

"When our daughter was very young, we would tell her that she had two choices—one good and the other bad—and we outlined the consequences of each. From this, she learned to make decisions. It was a vital lesson, since life is all about choices, no matter how old we are."—Yolanda.

MORE HELP FOR PARENTS

As you might have noticed, the advice found in this magazine is based on the Bible. The Bible contains the best guidance for sound living for each member of the family. Its principles can improve a person's thinking ability and sound judgment.—Proverbs 1:1-4.

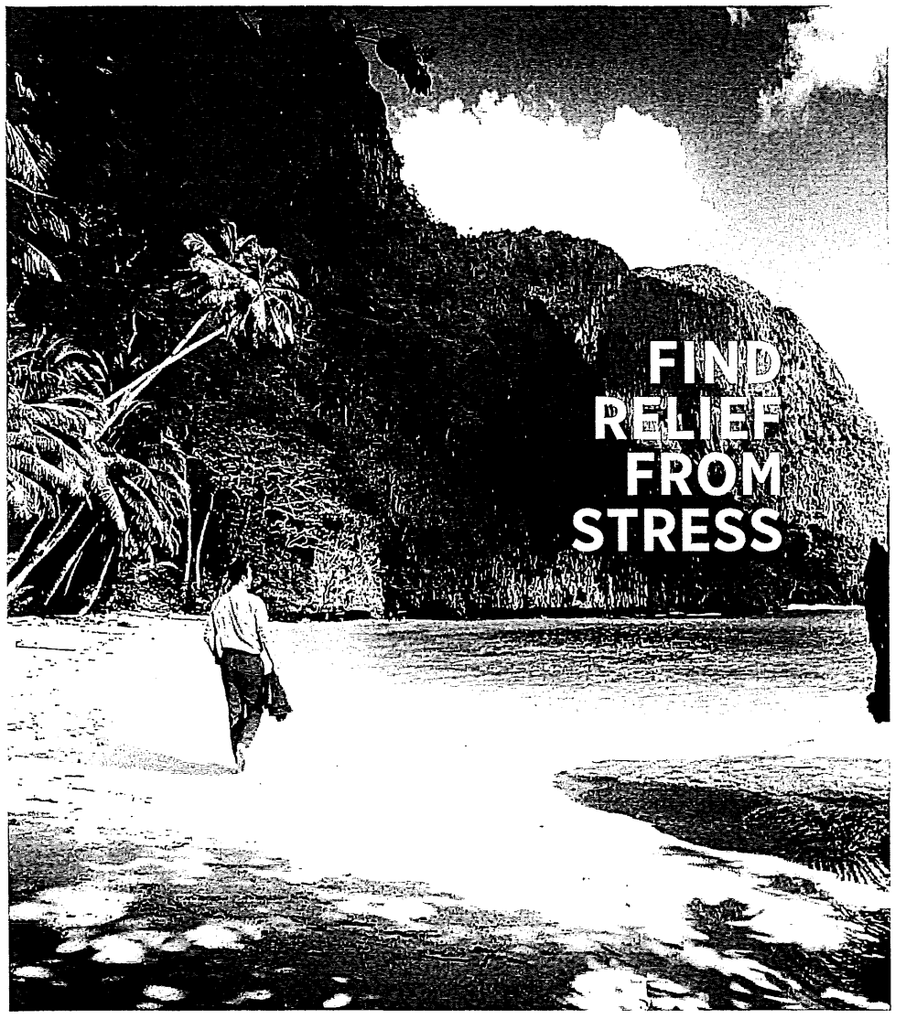
THE BIBLE ALSO ANSWERS LIFE'S BIG QUESTIONS, SUCH AS:

- What is the meaning of life?
- Is God to blame for our suffering?
- What happens when we die?

We invite you to investigate the Bible for yourself to find the answers to these questions and more. Watch the video *Why Study the Bible?* Scan code, or visit jw.org.

Awake!

No. 1 2020



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Are You Stressed?

"Everyone has stress to some degree, yet I am overwhelmed with stress. It is not from just one big problem but from many situations, from struggles, and from seemingly unending years of caring for my physically and mentally ill husband."—Jill.*

"My wife left me, and I had to raise two children on my own. It was hard being a single parent. On top of that, I lost my job and I couldn't afford to get my vehicle inspected for registration. I had no idea how to handle things. The stress was overwhelming. I knew deep down that it was wrong to kill myself, so I begged God to end my misery."—Barry.

Like Jill and Barry, do you sometimes feel overwhelmed with stress? If so, may the following articles comfort and help you. They examine common causes of stress, how stress can affect us, and how we can get at least a measure of stress relief.

* Names have been changed.

What Causes Stress?

"Most adults report being under increasing levels of stress," says the well-known Mayo Clinic. "Modern life is filled with change and uncertainty." Consider just some of the changes and uncertainties that contribute to stress:

- divorce
- the death of a loved one
- severe illness
- serious accidents
- crime
- a hectic pace of life
- disasters—natural or man-made
- pressures at school or work
- worries about employment and financial security

STRESS IN EARLY CHILDHOOD

It is not uncommon for children to suffer from stress. Some are bullied at school or neglected at home. Others are abused physically, emotionally, or sexually. Many are anxious about exams and school grades. Still others see their family torn apart by divorce. Stressed children may have nightmares, learning difficulties, depression, or a tendency to be withdrawn. Some seem unable to control their emotions. A child suffering from stress needs urgent help.

"THE LOSS OF A JOB,"

says the American Psychological Association, "can be devastating, putting unemployed workers at risk for physical illness, marital strain, anxiety, depression and even suicide. Loss of a job affects every part of life."

What Is Stress?

Stress is your body's response to a demanding situation. Your brain causes hormones to flood your system. These increase your heart rate, regulate your blood pressure, expand or constrict the capacity of your lungs, and tense your muscles. Before you are fully aware of what is happening, your body is primed for action. When a stressful episode is over, your body comes off "high alert" and returns to normal.

GOOD AND BAD STRESS

Stress is a natural response that enables you to deal with challenging or dangerous situations. The stress response begins in your brain. Beneficial stress enables you to act or react quickly. A certain amount of stress can also help you to reach your goals or to perform better, perhaps during an exam, a job interview, or a sporting event.

However, prolonged, extreme, or chronic stress can harm you. When your body is repeatedly or constantly on "high alert," you may begin to suffer physically, emotionally, and mentally. Your behavior, including the way you treat others, may change. Chronic stress can also lead to substance abuse and other unhealthy means of coping. It may even spiral into depression, burnout, or thoughts of suicide.

While stress may not affect everyone in the same way, it can contribute to a wide range of diseases. And it can affect nearly every part of the body.

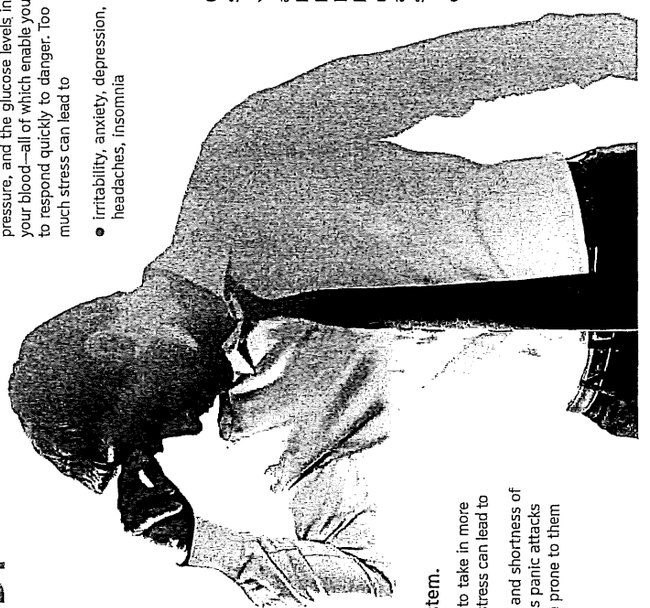
HOW STRESS CAN AFFECT YOUR BODY

Nervous system.
Your nervous system causes hormones such as adrenaline and cortisol to be released. These increase your heart rate, your blood pressure, and the glucose levels in your blood—all of which enable you to respond quickly to danger. Too much stress can lead to

- irritability, anxiety, depression, headaches, insomnia

Cardiovascular system.
Your heart beats faster and harder to distribute blood throughout your body. Blood vessels dilate or constrict to direct blood where your body needs it the most, such as in your muscles. Too much stress can lead to

- high blood pressure, heart attack, stroke

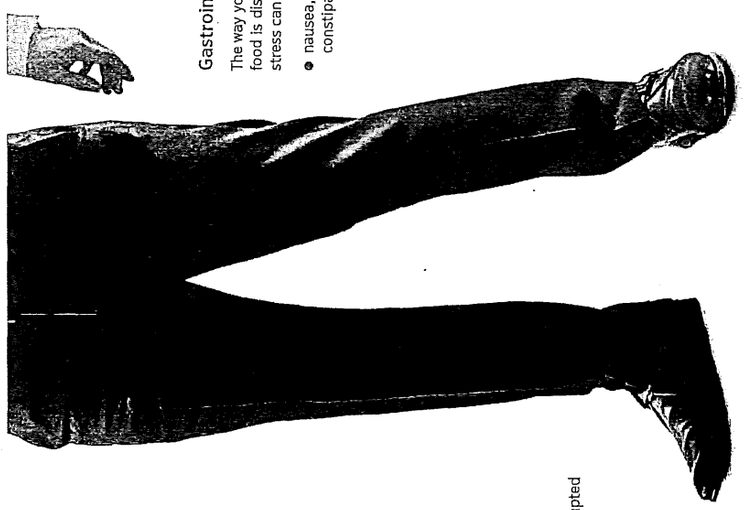


Musculoskeletal system.
Your muscles tense up to protect you from injury. Too much stress can lead to

- body aches and pains, tension headaches, muscle spasms

Respiratory system.
You breathe faster to take in more oxygen. Too much stress can lead to

- hyperventilation and shortness of breath, as well as panic attacks in those who are prone to them



Gastrointestinal system.
The way your body processes food is disrupted. Too much stress can lead to
- nausea, vomiting, diarrhea, constipation

Endocrine system.
Your glands produce the hormones adrenaline and cortisol, which help the body react to stress. Your liver increases your blood-sugar level to give you more energy. Too much stress can lead to
- diabetes, lower immunity and increased illness, mood swings, weight gain

Reproductive system.
Stress can affect sexual desire and function. Too much stress can lead to
- impotence, disrupted menstrual cycle

How to Deal With Stress

To deal effectively with stress, you need to think about your physical health, the way you interact with others, and your goals and priorities in life—that is, what you consider to be truly important. This article will review some practical principles that can help you to deal better with stress and perhaps even reduce it.

Try to Live One Day at a Time

"Never be anxious about the next day, for the next day will have its own anxieties."—MATTHEW 6:34.

Meaning: Daily anxieties are a part of life. But do not increase today's anxieties by adding tomorrow's to them. Try to live one day at a time.

- Stress can cause anxiety. So try this: First, recognize that some stress is inevitable. Fretting over things you cannot prevent increases your stress. Second, understand that quite often things do not turn out the way we may fear they will.

Set Reasonable Standards

"The wisdom from above is . . . reasonable."—JAMES 3:17.

Meaning: Do not be a perfectionist. Avoid setting unrealistically high standards for yourself or others.

- Be modest, set reasonable standards, and know both your limitations and those of others. When you do this, you will reduce stress all around and even encourage greater success. Also, keep a sense of humor. When you laugh—even when something goes wrong—you relieve tension and brighten your mood.

Know What Stresses You

"A discerning man will remain calm."—PROVERBS 17:27.

Meaning: Negative emotions can cloud clear thinking, so try to stay calm.

- Identify what stresses you, and note your response. For example, when you feel stressed, note your thoughts, feelings, and behavior, perhaps even making a record of them. By becoming more aware of your response to stress, you may be able to deal with it more effectively. Also, think of ways to eliminate stressful things from your life. If that is unrealistic, look for ways to reduce their impact, perhaps by managing your tasks or time more efficiently.
- Try to see things in a different light. What stresses you may not stress someone else. The difference may be in viewpoint. Consider these three suggestions:

1. Do not be quick to assume bad motives. A person may cut ahead of you in a line. If you attribute his act to rudeness, you may become upset. Instead, why not assume that his motive was good? You may be right!
2. See the positive side of a situation. A long wait at a doctor's office or an airport is easier to bear if you use the time to do some reading or to catch up on work or e-mail.
3. Keep the big picture in mind. Ask yourself, 'Will this problem be a big issue tomorrow or next week?' Distinguish between minor or short-term issues and more serious ones.

Try to Be Orderly

"Let all things take place decently and by arrangement."
—1 CORINTHIANS 14:40.

Meaning: Try to maintain order in your life.

- We like a reasonable amount of order in life. One thing that can contribute to disorder—and stress—is procrastination, and this may lead to a growing list of unfinished tasks. Why not try these two suggestions?

1. Make a practical schedule, and stick to it.
2. Identify and correct any attitudes that cause you to procrastinate.

Pursue a Balanced Lifestyle

"Better is a handful of rest than two handfuls of hard work and chasing after the wind."
—ECCLESIASTES 4:6.

Meaning: Workaholics can deprive themselves of the benefits of their "two handfuls of hard work." They may have no time or energy left to enjoy what they worked for.

- Have a realistic view of work and money. More money does not mean more happiness or less stress. In fact, the opposite can be true. "The plenty belonging to the rich one does not permit him to sleep," says Ecclesiastes 5:12. So try to live within your means.
- Make time to relax. You relieve stress when you do things you enjoy. However, passive recreation, such as watching TV, may not help.
- Keep technology in its place. Avoid constantly checking e-mail, texts, or social media sites. Unless circumstances require it, do not check work-related e-mail outside of working hours.

Take Care of Your Health

"Physical training is beneficial."—1 TIMOTHY 4:8.

Meaning: Regular exercise promotes better health.

- Develop healthful habits. Physical activity can lift your mood and improve your body's response to stress. Eat nutritious food, and try to avoid skipping meals. Be sure to get enough rest.
- Avoid harmful "solutions" to stress, such as smoking or drug and alcohol abuse. In the long run, these heighten stress, perhaps by robbing you of your health and hard-earned money.
- See your doctor if your stress becomes overwhelming. Getting professional help is not an admission of failure.

"KILL YOUR STRESS WITH KINDNESS"

"A kind man benefits himself, but the cruel person brings trouble on himself." —PROVERBS 11:17.

The book *Overcoming Stress* has a chapter entitled "Kill Your Stress with Kindness." Treating others kindly, according to the author, Dr. Tim Cantopher, can promote health and happiness. On the other hand, an unkind or cruel person makes himself unhappy because he alienates himself from others.

We may also get stress relief by treating ourselves kindly. For example, we should not make harsh or unrealistic demands on ourselves. Nor should we belittle or malign ourselves. "You must love your neighbor *as yourself*," Jesus Christ said. —Mark 12:31.

Set Priorities

"Make sure of the more important things."—PHILIPPIANS 1:10.

Meaning: Carefully consider your priorities.

- List your tasks in order of importance. This will help you focus on the more important jobs, and it will reveal which ones you can put off, delegate, or even eliminate.
- For a week, keep track of how you use your time. Then look for ways to make better use of it. The more you are in control, the less pressured you will feel.
- Schedule some downtime. Even short breaks can reinvigorate you and reduce your stress.

Get Support

"Anxiety in a man's heart weighs it down, but a good word cheers it up."—PROVERBS 12:25.

Meaning: Kind, compassionate words from others can lift your spirits.

- Talk things over with an understanding person. A confidant may help you to see things differently or even to see a solution you overlooked. And just unburdening yourself can make you feel better.
- Ask for help. Can you delegate a task or share the workload?
- If a work associate stresses you, look for ways to improve the situation. For example, could you kindly and tactfully tell the person how he or she makes you feel? (Proverbs 17:27) If such measures fail, can you reduce the time you spend with the person?

Care for Your Spiritual Need

"Happy are those conscious of their spiritual need."—MATTHEW 5:3.

Meaning: As humans, we need more than food, clothing, and shelter. We have a spiritual need. To be happy, we must be conscious of that need and attend to it.

- Prayer can be a big help. God invites you to "throw all your anxiety on him, because he cares for you." (1 Peter 5:7) Prayer and wholesome meditation can result in deep inner peace.—Philippians 4:6, 7.
- Read spiritually uplifting things. The principles discussed in this magazine come from the Bible, which was written to satisfy our spiritual need. These also foster "practical wisdom and thinking ability." (Proverbs 3:21) Why not set a goal to read the Bible? The book of Proverbs might be a good place to start.

THE POWER OF FORGIVENESS

"The insight of a man certainly slows down his anger, and it is beauty on his part to overlook an offense."—PROVERBS 19:11.

In the *Journal of Health Psychology*, Loren Toussaint states that "stress degrades [health] and forgiveness protects health." He adds: "Forgiveness is the release of negative—and the potential enhancement of positive—feelings, emotions, and behaviors toward an offender." He thus concludes that a forgiving spirit "may help minimize stress-related disorders."

FIND RELIEF FROM STRESS

A Stress-Free Life Is Possible

The wisdom in the Bible can help us to avoid much needless stress. We ourselves cannot eliminate all that stresses us. But our Creator can. He has even appointed someone to come to our aid. That one is Jesus Christ. On a global scale, he will soon do even more wonderful things than he did when he was a man on earth. For example:

JESUS WILL HEAL THE SICK, AS HE DEMONSTRATED.

"They brought him all those who were suffering with various diseases . . . , and he cured them."
—MATTHEW 4:24.

JESUS WILL PROVIDE HOUSING AND FOOD FOR ALL.

"They [Christ's subjects] will build houses and live in them, and they will plant vineyards and eat their fruitage. They will not build for someone else to inhabit, nor will they plant for others to eat."
—ISAIAH 65:21, 22.

JESUS' RULE WILL RESULT IN GLOBAL PEACE AND SECURITY.

"In his days the righteous will flourish, and peace will abound until the moon is no more. He will have subjects from sea to sea and from the River to the ends of the earth. . . . His enemies will lick the dust."—PSALM 72:7-9.

JESUS WILL ELIMINATE INJUSTICE.

"He will have pity on the lowly and the poor, and the lives of the poor he will save. From oppression and from violence he will rescue them."
—PSALM 72:13, 14.

JESUS WILL EVEN ELIMINATE SUFFERING AND DEATH.

"Death will be no more, neither will mourning nor outcry nor pain be anymore."—REVELATION 21:4.

"PERILOUS TIMES OF GREAT STRESS"

"The world is more stressed, worried, sad and in pain today than we've ever seen it."—Mohamed S. Younis, Gallup managing editor.

Why is stress so common? The Bible gives a most reasonable answer. At 2 Timothy 3:1, it states: "In the last days will come . . . perilous times of great stress *and* trouble." (*The Amplified Bible*) The reason, the Bible goes on to say, relates to the bad personality traits of people. These traits include greed, arrogance, religious hypocrisy, a violent disposition, a lack of family affection, and a lack of self-control. (2 Timothy 3: 2-5) The last days will end when Jesus Christ takes full control of the earth as King of God's Kingdom, a heavenly government.—Daniel 2:44.

"A CALM HEART GIVES LIFE TO THE BODY"

Those words, found at Proverbs 14:30, were written about three thousand years ago! They reflect the timeless wisdom found in the Bible. If you would like to learn more, go to jw.org. There you will find videos, animations, interviews, and articles on many helpful topics, including stress relief. A sample is listed here:

FOR MARRIED COUPLES

- Managing Conflicts in Marriage
- How to Keep Peace With Your Relatives
- How to Let Go of Resentment

FOR TEENS

- Beat a Bully Without Using Your Fists
- How Can I Get More Sleep?
- Why Make Peace With My Siblings?

FOR PARENTS

- How to Communicate With Your Teenager
- When Your Teenage Daughter Is Stressed Out
- How to Teach Teens Internet Safety

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Was Life Created?

What do you believe?

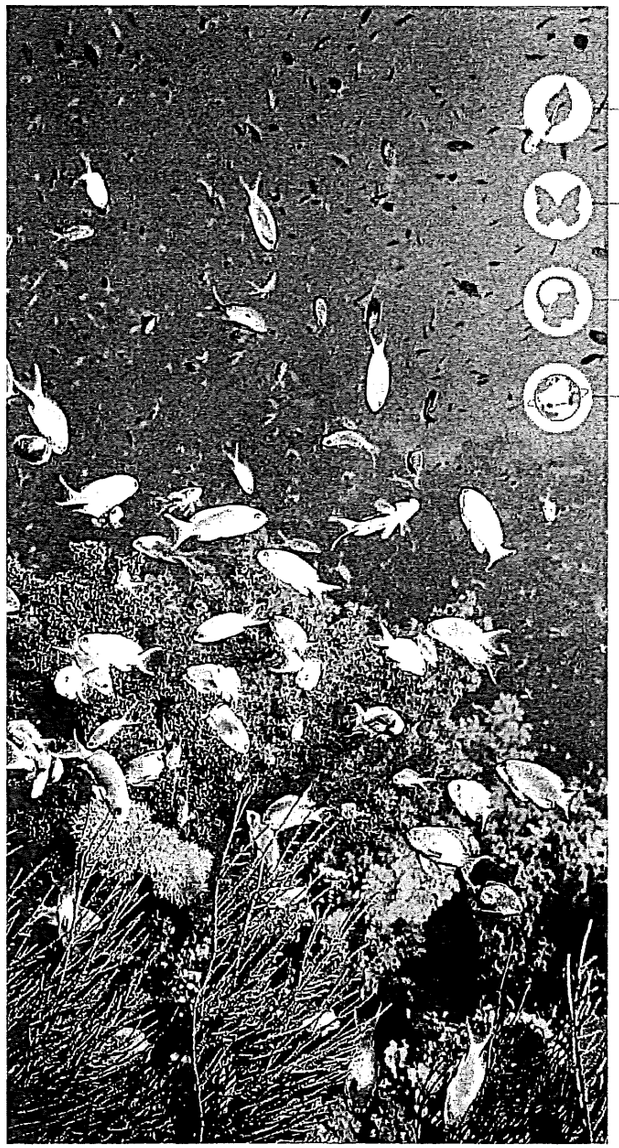
Many religious fundamentalists believe that the earth and everything on it was created in six 24-hour days, just a few thousand years ago. Some atheists would have you believe that God does not exist, that the Bible is a book of myths, and that all life is the product of random, undirected events.

The majority of people hold views that are somewhere between these opposing ideas. The fact that you are reading this brochure likely indicates that you are one of them. You may believe in God and respect the Bible. But you may also value the opinion of highly trained and influential scientists who do not believe that life was created. If you are a parent, you may wonder how to answer your children when they ask questions about evolution and creation.

What is the purpose of this brochure?

It is not the purpose of this material to ridicule the views either of fundamentalists or of those who choose not to believe in God. Rather, it is our hope that this brochure will prompt you to examine again the basis for some of your beliefs. It will present an explanation of the Bible's account of creation that you may not have previously considered. And it will emphasize why it really does matter what you believe about how life began.

Will you trust the claims of those who say that there is no intelligent Creator and that the Bible is unreliable? Or will you examine what the Bible actually says? Which teachings are worthy of your trust, your faith: those of the Bible or those of evolutionists? (Hebrews 11:1) Why not review the facts?



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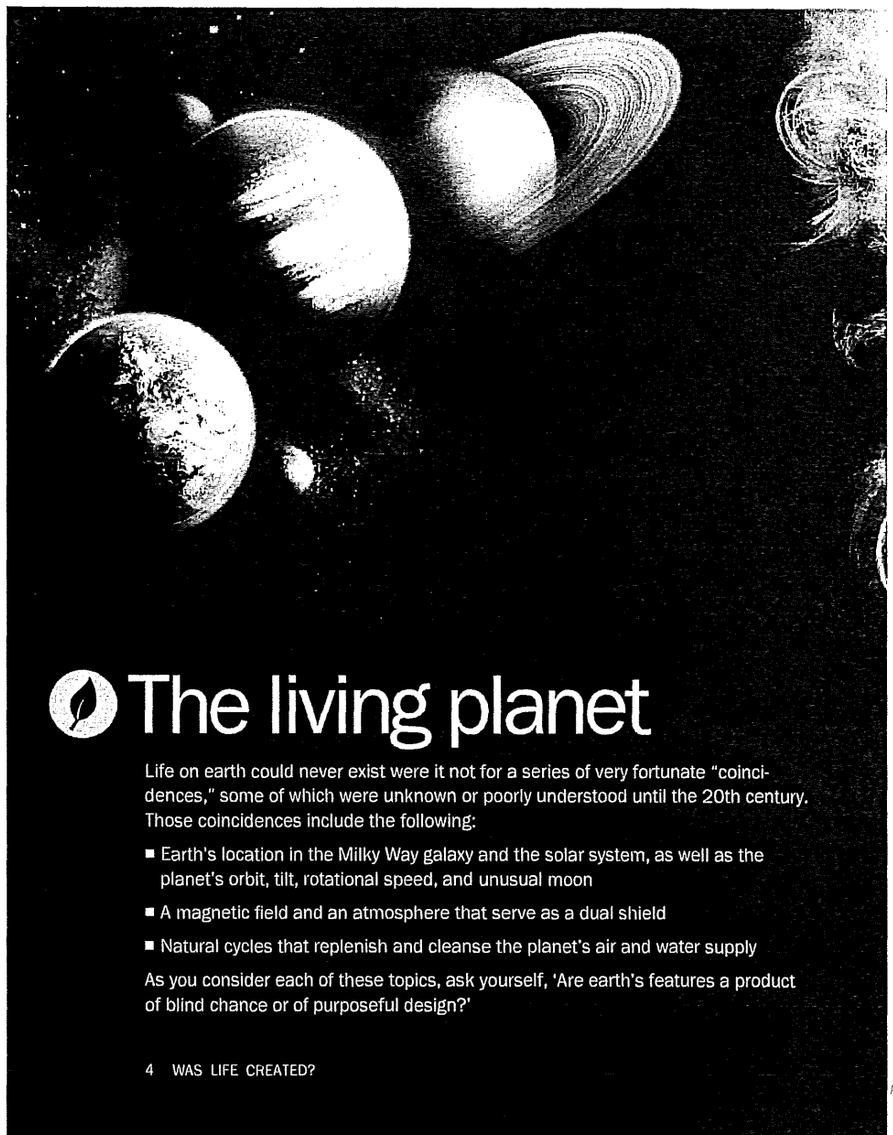
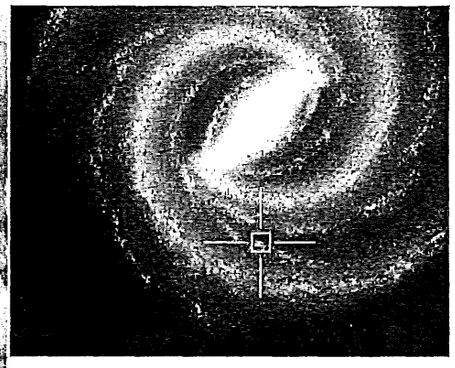


The living planet

Life on earth could never exist were it not for a series of very fortunate "coincidences," some of which were unknown or poorly understood until the 20th century. Those coincidences include the following:

- Earth's location in the Milky Way galaxy and the solar system, as well as the planet's orbit, tilt, rotational speed, and unusual moon
- A magnetic field and an atmosphere that serve as a dual shield
- Natural cycles that replenish and cleanse the planet's air and water supply

As you consider each of these topics, ask yourself, 'Are earth's features a product of blind chance or of purposeful design?'



Could the earth be located in a better position to host life?

Earth's perfect "address"

When you write down your address, what do you include? You might put in your country, city, and street. By way of comparison, let's call the Milky Way galaxy earth's "country," the solar system —that is, the sun and its planets—earth's "city," and earth's orbit within the solar system earth's "street." Thanks to advances in astronomy and physics, scientists have gained deep insights into the merits of our special spot in the universe.

To begin with, our "city," or solar system, is located in the ideal region of the Milky Way galaxy—not too close to the center and not too far from it. This "habitable zone," as scientists call it, contains just the right concentrations of the chemical elements needed to support life. Farther out, those elements are too scarce; farther in, the neighborhood is too dangerous because of the greater abundance of potentially lethal radiation and other factors. "We live in prime real estate," says *Scientific American* magazine.[1]

◀ NASA/JPL/Caltech

The ideal "street": No less "prime" is earth's "street," or orbit within our solar system "city." About 93 million miles from the sun, this orbit lies within a limited zone that is habitable because life neither freezes nor fries. Moreover, earth's path is almost circular, keeping us roughly the same distance from the sun yearround.

The sun, meanwhile, is the perfect "powerhouse." It is stable, it is the ideal size, and it emits just the right amount of energy. For good reason, it has been called "a very special star."[2]

The perfect "neighbor": If you had to choose a "next-door neighbor" for the earth, you could not improve on the moon. Its diameter measures just over a quarter of that of the earth. Thus, when compared with other moons in our solar system, our moon is unusually large in relation to its host planet. Mere coincidence? It seems unlikely.

For one thing, the moon is the principal cause of ocean tides, which play a vital role in earth's ecology. The moon also contributes to the planet's stable spin axis. Without its tailor-made moon, our planet would wobble like a spinning top, perhaps even tipping right over and turning on its side, as it were! The resulting climatic, tidal, and other changes would be catastrophic.

Earth's perfect tilt and spin: Earth's tilt of about 23.4 degrees causes the annual cycle of seasons, moderates temperatures, and allows for a wide range of climate zones. "Our planet's tilt axis seems to be 'just right,'" says the book *Rare Earth—Why Complex Life Is Uncommon in the Universe.*[3]

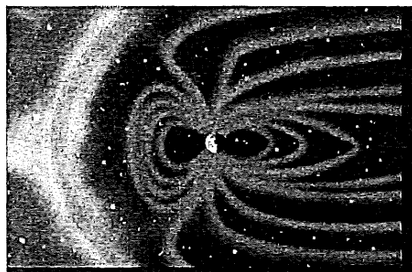
Also "just right" is the length of day and night, a result of earth's spin. If the speed of rotation were substantially slower, the days would be longer and the side of the earth facing the sun would bake while the other side would freeze. Conversely, if the earth were to spin much faster, the days would be shorter, perhaps just a few hours long, and earth's rapid spin would cause relentless gale-force winds and other harmful effects.

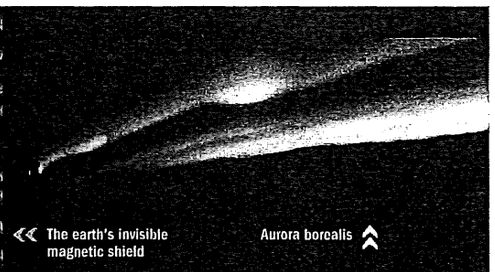
Earth's protective shields

Space is a dangerous place where lethal radiation is common and meteoroids are an ever-present danger. Yet, our blue planet seems to fly through this galactic "shooting gallery" with relative impunity. Why? Because earth is protected by amazing armor—a powerful magnetic field and a custom-made atmosphere.

Earth's magnetic field: The center of the earth is a spinning ball of molten iron, which causes our planet to have a huge and powerful magnetic field that stretches far into space. This shield protects us from the full intensity of cosmic radiation and from potentially deadly forces emanating from the sun. The latter include the solar wind, which is a steady stream of energetic particles; solar flares, which in minutes release as much energy as billions of hydrogen bombs; and explosions in the outer region, or corona, of the sun, which blast billions of tons of matter into space. You can see visible reminders of the protection you receive from

Magnetosphere: NASA. Smaller inset, earth tilt: Based on NASA Visible Earth imagery





<< The earth's invisible magnetic shield

Aurora borealis >>

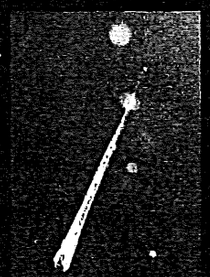
the earth's magnetic field. Solar flares and explosions in the sun's corona trigger intense auroras, colorful displays of light visible in the upper atmosphere near earth's magnetic poles.

Earth's atmosphere: This blanket of gases not only keeps us breathing but also provides additional protection. An outer layer of the atmosphere, the *stratosphere*, contains a form of oxygen called ozone, which absorbs up to 99 percent of incoming ultraviolet (UV) radiation. Thus, the ozone layer helps to protect many forms of life—including humans and the plankton we depend on to produce much of our oxygen—from dangerous radiation. The amount of stratospheric ozone is not fixed. Rather, it changes, growing as the intensity of UV radiation rises. So the ozone layer is a dynamic, efficient shield.

The atmosphere also protects us from a daily barrage of debris from space—millions of objects ranging in size from tiny particles to boulders. By far the majority of these burn up in the atmosphere, becoming bright flashes of light called meteors. However, earth's shields do not block radiation that is essential to life, such as heat and visible light. The atmosphere even helps to distribute the heat around the globe, and at night the atmosphere acts as a blanket, slowing the escape of heat.

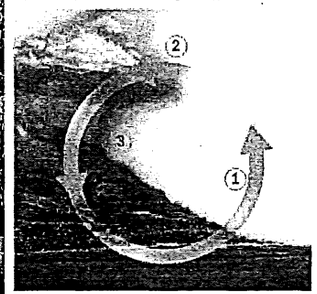
Earth's atmosphere and magnetic field truly are marvels of design that are still not fully understood. The same could be said of the cycles that sustain life on this planet.

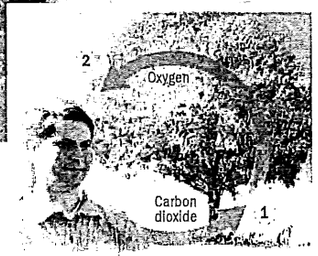
The atmosphere protects us from meteors >>



Is it only a coincidence that our planet is protected by two dynamic shields?

Aurora Photo: Jim Curtis, http://NatureSky.org; meteorite: ESA, NASA



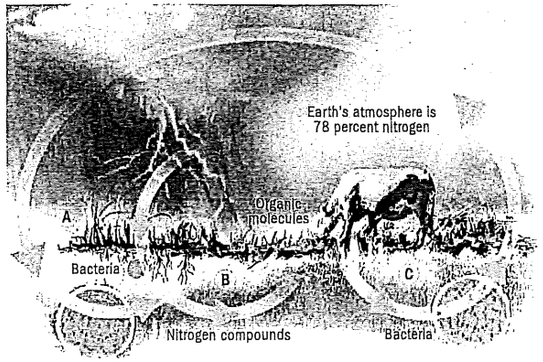


Natural cycles for life

If a city's supply of fresh air and water were cut and its sewers blocked, disease and death would soon follow. But consider: Our planet is not like a restaurant, where new food and supplies are shipped in from outside and garbage is carted away. The clean air and water we depend on are not shipped in from outer space, nor is waste matter rocketed out. So how does the earth remain healthy and habitable? The answer: the natural cycles, such as water, carbon, oxygen, and nitrogen cycles, explained here and shown simplified.

The water cycle: Water is essential to life. None of us can live without it for more than a few days. The water cycle distributes fresh, clean water around the planet. It involves three stages. **(1)** Solar power lifts water into the atmosphere by evaporation. **(2)** Condensation of this purified water produces clouds. **(3)** Clouds, in turn, form rain, hail, sleet, or snow, which falls to the ground, ready to evaporate again, thus completing the cycle. How much water is recycled annually? According to estimates, enough to cover the earth's surface uniformly to a depth of more than two and a half feet.[4]

The carbon and oxygen cycles: As you know, in order to live you need to breathe, to take in oxygen and give out carbon dioxide. But with countless billions of humans and animals doing the same thing, why does our atmosphere never run out of oxygen and become overloaded with carbon dioxide? The answer lies in the oxygen cycle. **(1)** In an amazing process called photosynthesis, plants take in the carbon dioxide that we exhale, using it and the energy from sunlight to produce carbohydrates and oxygen. **(2)** When we take in oxygen, we complete that cycle. All this production of vegetation and breathable air happens cleanly, efficiently, and quietly.

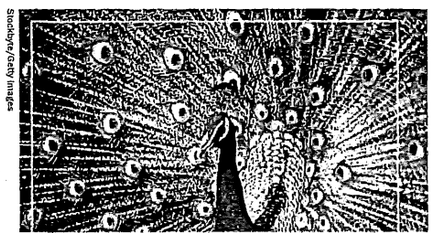


The nitrogen cycle: Life on earth also depends on the production of such organic molecules as proteins. **(A)** To produce those molecules, nitrogen is needed. Happily, that gas makes up about 78 percent of our atmosphere. Lightning converts nitrogen into compounds that plants can absorb. **(B)** Then plants incorporate those compounds into organic molecules. Animals that eat those plants thus also acquire nitrogen. **(C)** Finally, when plants and animals die, the nitrogen compounds in them are broken down by bacteria. That process of decay releases nitrogen back into the soil and atmosphere, completing the cycle.

Perfect recycling!

Humans, with all their advanced technology, create countless tons of unrecyclable toxic waste annually. Yet, the earth recycles *all* its wastes perfectly, using ingenious chemical engineering.

How do you think the earth's recycling systems arose? "If the Earth's ecosystem had truly evolved by chance alone, it wouldn't possibly have been able to reach such a perfect level of environmental harmony," says religion and science writer M. A. Corey.[5] Do you agree with his conclusion?



Stockphoto/Getty Images

How would you reply?

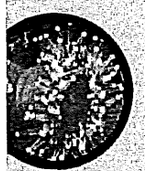
- Do you feel that the earth's features are the product of purposeful design? If so, which of the above facts do you find most convincing?
- How would you respond to the claim that the earth is nothing special, just another setting where evolution could occur?

Teeming with life

No one knows how many species there are on earth. Estimates vary from 2 million to 100 million.[6] How pervasive is life on our planet?

Subterranean bacteria

Pollen



Anemone

Earth: Just one hundred grams (3.5 ounces) of soil has been found to host 10,000 *species* of bacteria,[7] not to mention the total number of microbes. Some species have been found almost two miles underground![8]

Air: In addition to the birds, bats, and insects that fly through the air, the atmosphere is filled with pollen and other spores, as well as seeds and —in certain areas—thousands of different kinds of microbes. The diversity of microbial life in the air is "on par with the diversity of microbes in the soil," says *Scientific American* magazine.[9]

Water: The oceans remain largely a mystery because in order to study the watery deep, scientists often have to use costly technology. Even coral reefs, which are relatively accessible and are well-surveyed, may host millions of yet unknown species.

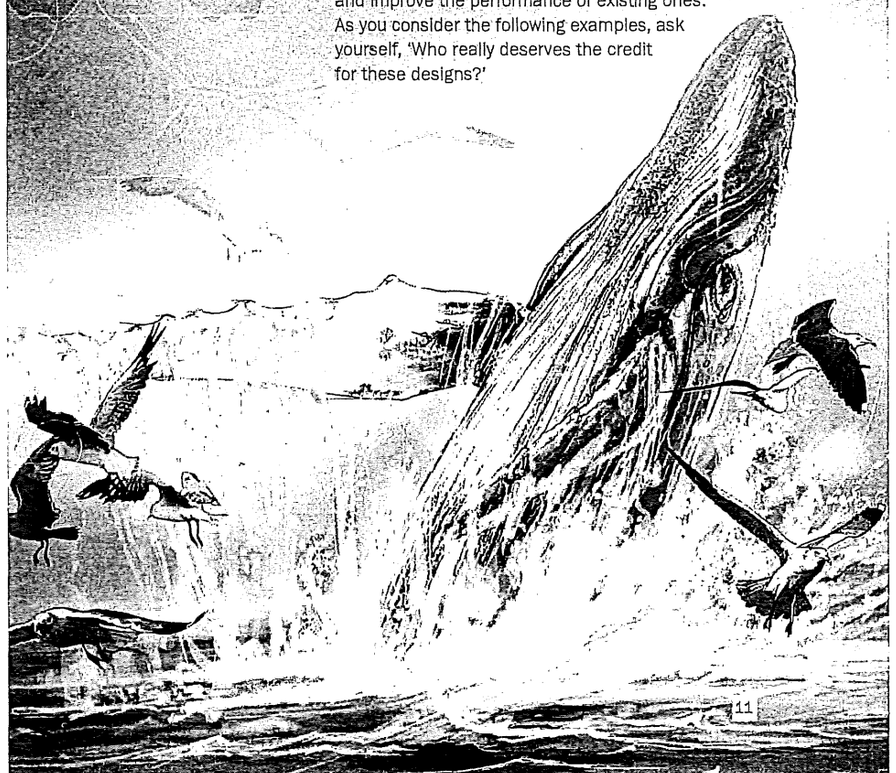
Did this impressive variety of life arise by chance? Many would agree with the poet who wrote: "How many your works are, O Jehovah! All of them in wisdom you have made. The earth is full of your productions."*—Psalm 104:24.

* In the Bible, God's personal name is Jehovah.—Psalm 83:18.

Bacteria: Penn State University, laboratory of Jean Brenchley, and with kind permission from Springer Science+Business Media: Extremophiles, Novel ultramicrobacterial isolates from a deep Greenland ice core represent a proposed new species, *Chryseobacterium greenlandense* sp. nov., January 2010, Jennifer Loveland-Curtze; pollen: © Fotosearch

Who designed it first?

In recent years, scientists and engineers have, in a very real sense, allowed plants and animals to instruct them. (Job 12:7, 8) They are studying and mimicking the design features of various creatures—a field known as biomimetics—in an effort to create new products and improve the performance of existing ones. As you consider the following examples, ask yourself, 'Who really deserves the credit for these designs?'



Learning from the whale's flippers

What can aircraft designers learn from the humpback whale? A great deal, it seems. An adult humpback weighs about 30 tons—as much as a loaded truck—and has a relatively stiff body with large wing-like flippers. This 40-foot-long animal is remarkably agile under water.

What particularly intrigued researchers was how this stiff-bodied creature could turn in what seem to be impossibly tight circles. They discovered that the secret is in the shape of the whale's flippers. The leading edge of its flippers is not smooth, like an aircraft wing, but serrated, with a row of protruding bumps called tubercles.

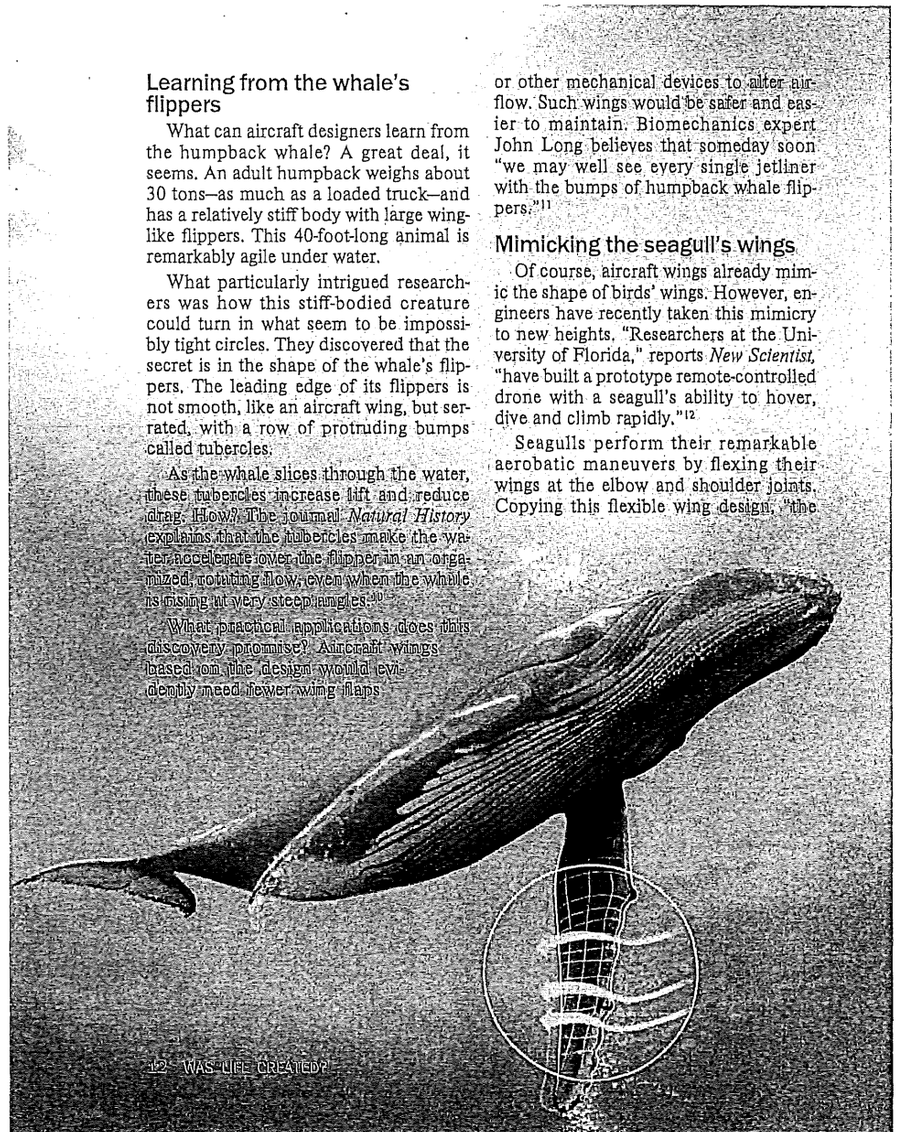
As the whale slices through the water, these tubercles increase lift and reduce drag. How? The journal *Natural History* explains that the tubercles make the water accelerate over the flipper in an organized, rotating flow, even when the whale is rising at very steep angles.[10]

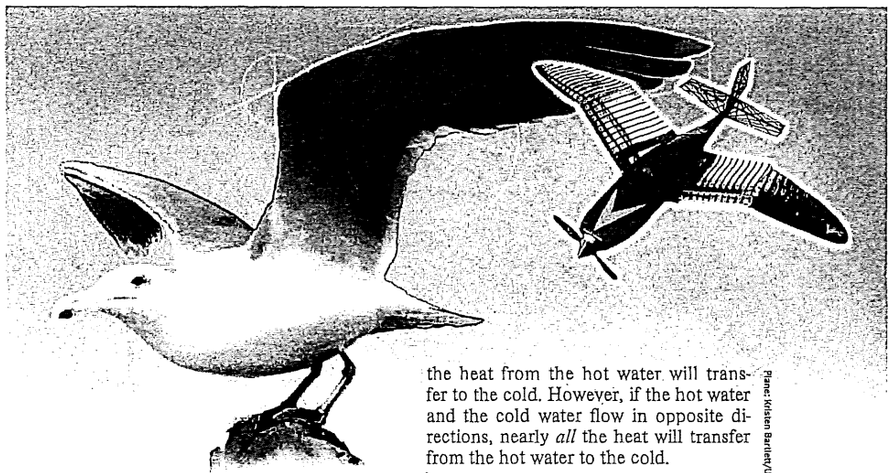
What practical applications does this discovery promise? Aircraft wings based on the design would evidently need fewer wing flaps or other mechanical devices to alter airflow. Such wings would be safer and easier to maintain. Biomechanics expert John Long believes that someday soon "we may well see every single jetliner with the bumps of humpback whale flippers."[11]

Mimicking the seagull's wings

Of course, aircraft wings already mimic the shape of birds' wings. However, engineers have recently taken this mimicry to new heights. "Researchers at the University of Florida," reports *New Scientist*, "have built a prototype remote-controlled drone with a seagull's ability to hover, dive and climb rapidly."[12]

Seagulls perform their remarkable aerobatic maneuvers by flexing their wings at the elbow and shoulder joints. Copying this flexible wing design, "the





Plane: Kristen Bartlett/University of Florida

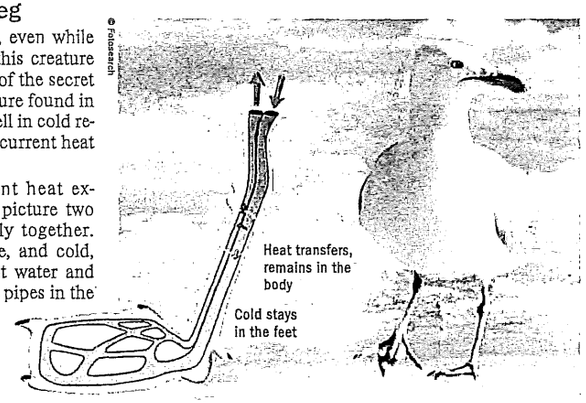
24-inch prototype drone uses a small motor to control a series of metal rods that move the wings," says the magazine. These cleverly engineered wings enable the small aircraft to hover and dive between tall buildings. Some military personnel are keen to develop such a highly maneuverable craft for use in searching for chemical or biological weapons in big cities.

Copying the seagull's leg

A seagull does not freeze, even while standing on ice. How does this creature conserve its body heat? Part of the secret is in a fascinating design feature found in a number of animals that dwell in cold regions. It is called the countercurrent heat exchanger.

What is a countercurrent heat exchanger? To understand it, picture two water pipes strapped closely together. Hot water flows in one pipe, and cold, in the other. If both the hot water and the cold water flow down the pipes in the same direction, about half of the heat from the hot water will transfer to the cold. However, if the hot water and the cold water flow in opposite directions, nearly *all* the heat will transfer from the hot water to the cold.

When a seagull stands on ice, the heat exchangers in its legs warm the blood as it returns from the bird's cold feet. The heat exchangers conserve heat in the bird's body and prevent heat loss from its feet. Arthur P. Fraas, a mechanical and aeronautical engineer, described this design as "one of the world's most effective regenerative heat exchangers."[13] This design is so ingenious that human engineers have copied it.



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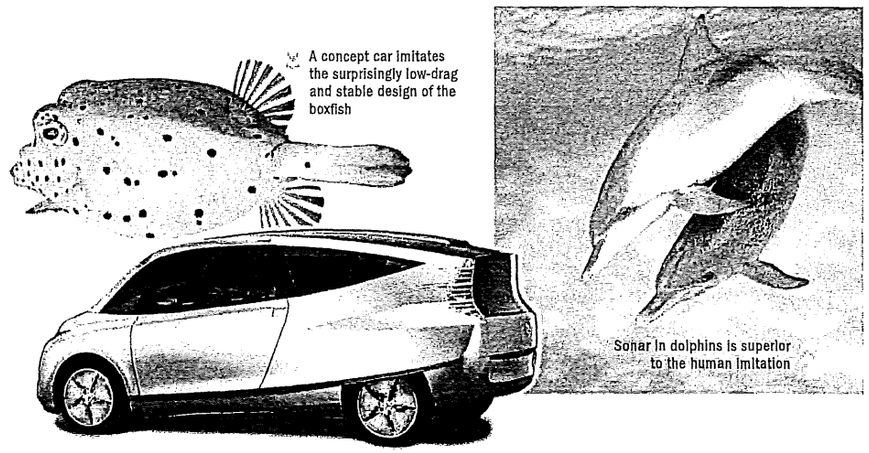


A concept car imitates the surprisingly low-drag and stable design of the boxfish

Sonar in dolphins is superior to the human imitation

Boxfish and car: Mercedes-Benz USA

Who deserves the credit?

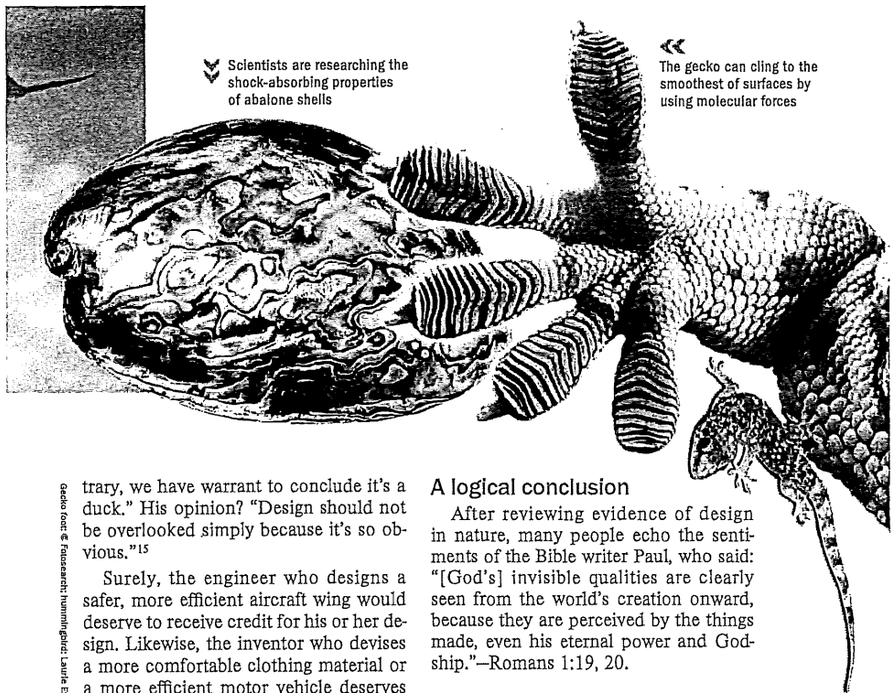
Meanwhile, the National Aeronautics and Space Administration is developing a multilegged robot that walks like a scorpion, and engineers in Finland have already developed a six-legged tractor that can climb over obstacles the way a giant insect would. Other researchers have designed fabric with small flaps that imitate the way pinecones open and close.

Who is nature's patent holder?

Such fabric adjusts to the body temperature of the wearer. A car manufacturer is developing a vehicle that imitates the surprisingly low-drag design of the boxfish. And other researchers are probing the shock-absorbing properties of abalone shells, with the intention of making lighter, stronger body armor.

So many good ideas have come from nature that researchers have established a database that already catalogs thousands of different biological systems. Scientists can search this database to find "natural solutions to their design problems," says *The Economist.* The natural systems held in this database are known as biological patents. Normally, a patent holder is a person or a company that legally registers a new idea or machine. Discussing this biological patent database, *The Economist* says: "By calling biomimetic tricks 'biological patents', the researchers are just emphasising that nature is, in effect, the patent holder."[14]

How did nature come up with all these brilliant ideas? Many researchers would attribute the seemingly ingenious designs evident in nature to millions of years of evolutionary trial and error. Other researchers, though, arrive at a different conclusion. Microbiologist Michael J. Behe wrote in *The New York Times* of February 7, 2005: "The strong appearance of design [in nature] allows a disarmingly simple argument: if it looks, walks and quacks like a duck, then, absent compelling evidence to the con-



Scientists are researching the shock-absorbing properties of abalone shells

The gecko can cling to the smoothest of surfaces by using molecular forces

trary, we have warrant to conclude it's a duck." His opinion? "Design should not be overlooked simply because it's so obvious."[15]

Surely, the engineer who designs a safer, more efficient aircraft wing would deserve to receive credit for his or her design. Likewise, the inventor who devises a more comfortable clothing material or a more efficient motor vehicle deserves credit for his or her design. In fact, a manufacturer who copies someone else's design but fails to acknowledge or credit the designer may be viewed as a criminal.

Now consider these facts: Highly trained researchers crudely mimic systems in nature to solve difficult engineering problems. Yet, some would attribute the genius of devising the original idea to unintelligent evolution. Does that sound reasonable to you? If the copy requires an intelligent designer, what about the original? Really, who deserves more credit, the master engineer or the apprentice who imitates his designs?

A logical conclusion

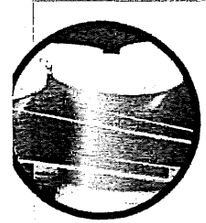
After reviewing evidence of design in nature, many people echo the sentiments of the Bible writer Paul, who said: "[God's] invisible qualities are clearly seen from the world's creation onward, because they are perceived by the things made, even his eternal power and Godship."—Romans 1:19, 20.

How would you reply?

- Does it seem logical to you to believe that the brilliant engineering evident in nature came about by accident?
- How would you answer the claim that life only *appears* to be designed?

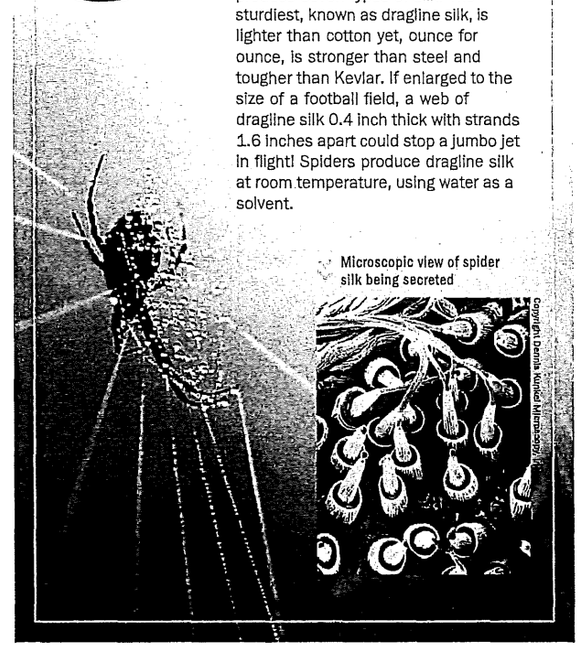
Was it designed?

If the copy requires a designer, what about the original?

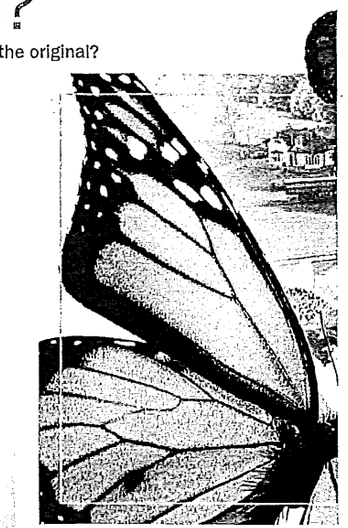


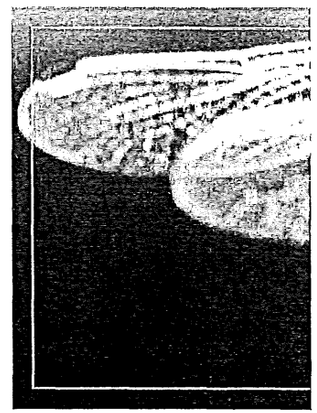
Fibers

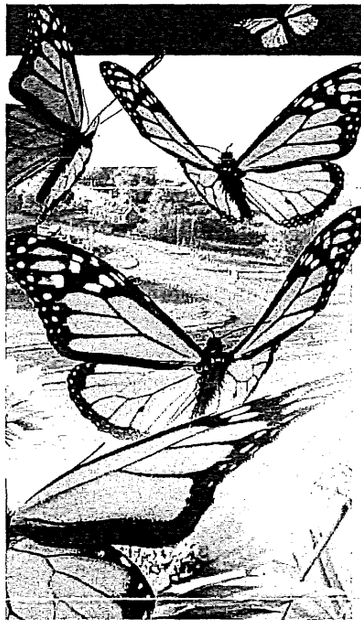
- **Man-made product:** Kevlar is a tough man-made fiber used in such items as bulletproof vests. To manufacture Kevlar, high temperatures and hazardous solvents are required.
- **Natural product:** Orb-weaving spiders produce seven types of silk. The sturdiest, known as dragline silk, is lighter than cotton yet, ounce for ounce, is stronger than steel and tougher than Kevlar. If enlarged to the size of a football field, a web of dragline silk 0.4 inch thick with strands 1.6 inches apart could stop a jumbo jet in flight! Spiders produce dragline silk at room temperature, using water as a solvent.

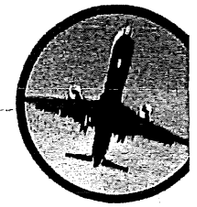


Microscopic view of spider silk being secreted



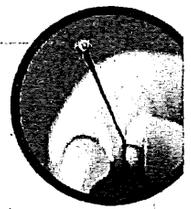






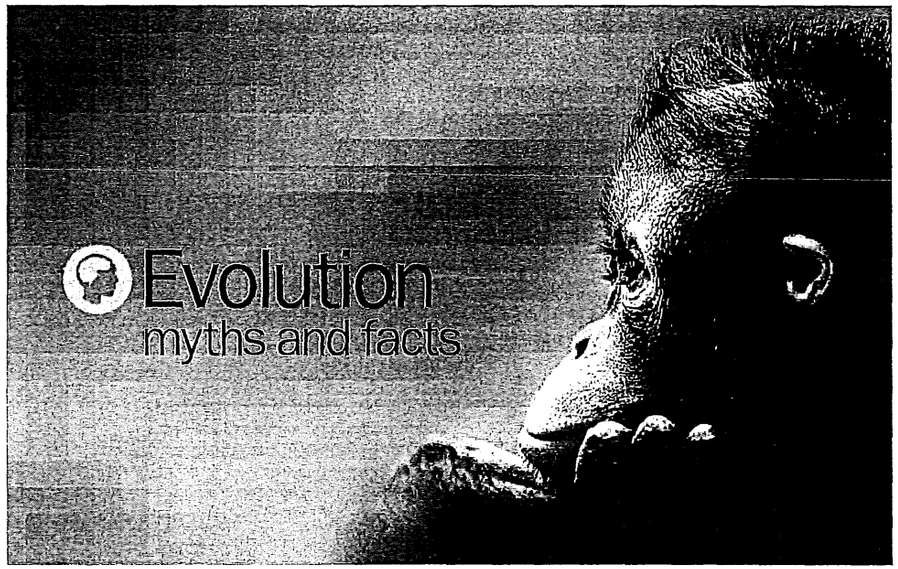
Navigation

- **Man-made product:** Some commercial airliners have computerized autopilot systems that can not only guide a plane from one country to another but also land the plane. The computer used in one experimental autopilot system is about the size of a credit card.
- **Natural product:** Using a brain the size of the tip of a ballpoint pen, the monarch butterfly migrates up to 1,800 miles from Canada to a small patch of forest in Mexico. This butterfly relies on the sun to help it navigate, and it has the ability to compensate for the movement of the sun across the sky.



Lenses

- **Man-made product:** Engineers have developed an artificial compound eye that fits 8,500 lenses into a space the size of a pinhead. Such lenses could be used in high-speed motion detectors and ultrathin multidirectional cameras.
- **Natural product:** Each eye of a dragonfly is made up of some 30,000 lenses. These lenses produce images that combine to create a wide mosaic view. The compound eyes of the dragonfly are superb at detecting movement.



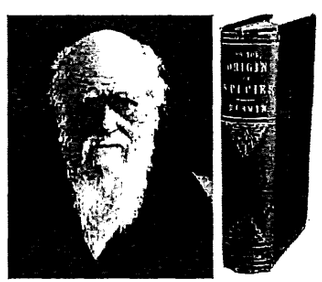
Evolution
myths and facts

"Evolution is as much a fact as the heat of the sun," asserts Professor Richard Dawkins, a prominent evolutionary scientist.[16] Of course, experiments and direct observations prove that the sun is hot. But do experiments and direct observations provide the teaching of evolution with the same undisputed support?

Before answering that question, we need to clear up something. Many scientists have noted that over time, the descendants of living things may change slightly. For example, humans can selectively breed dogs so that eventually the descendants have shorter legs or longer hair than their forebears.* Some scientists attach to such slight changes the term "microevolution."

However, evolutionists teach that small changes accumulated slowly over billions of years and produced the big changes needed to make fish into amphibians and apelike creatures into men. These proposed big changes are defined as "macroevolution."

Charles Darwin, for example, taught that the small changes we can observe



« Charles Darwin and his book *Origin of Species*

* The changes dog breeders can produce often result from losses in gene function. For example, the dachshund's small size is caused by a failure of normal development of cartilage, resulting in dwarfism.

implied that much bigger changes—which no one has observed—are also possible.[17] He felt that over vast periods of time, some original, so-called simple life-forms slowly evolved—by means of "extremely slight modifications"—into the millions of different forms of life on earth.[18]

To many, this claim sounds reasonable. They wonder, 'If small changes can occur within a species, why should not evolution produce big changes over long periods of time?'* In reality, though, the teaching of evolution rests on three myths. Consider the following.

Myth 1. Mutations provide the raw materials needed to create new species. The teaching of macroevolution is built on the claim that mutations —random changes in the genetic code of plants and animals—can produce not only new species but also entirely new families of plants and animals.[19]

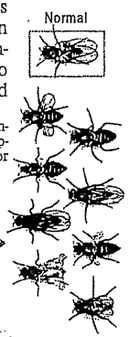
The facts. Many characteristics of a plant or an animal are determined by the instructions contained in its genetic code, the blueprints that are wrapped up in the nucleus of each cell.# Researchers have discovered that mutations can produce alterations in the descendants of plants and animals. But do mutations really produce entirely new species? What has a century of study in the field of genetic research revealed?

In the late 1930's, scientists enthusiastically embraced a new idea. They already thought that natural selection—the process in which the organism best suited to its environment is most likely to survive and breed—could produce new species of plants from random mutations. Therefore, they now assumed that artificial, or human-guided, selection of mutations should be able to do the same thing but more efficiently. "Euphoria spread among biologists in general and geneticists and breeders in particular," said Wolf-Ekkehard Lönnig, a scientist from the Max Planck Institute for Plant Breeding Research in Germany.* Why the euphoria? Lönnig, who has spent some 30 years studying mutation genetics in plants, said: "These researchers thought that the time had come to revolutionize the traditional method

* While the word "species" is used frequently in this section, it should be noted that this term is not found in the Bible book of Genesis. There we find the term "kind," which is much broader in meaning. Often, what scientists choose to call the evolution of a new species is simply a matter of variation within a "kind," as the word is used in the Genesis account.

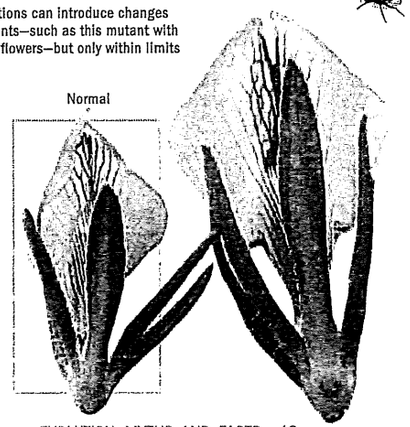
Research shows that the cell's cytoplasm, its membranes, and other structures also play a role in shaping an organism.

* Lönnig believes that life was created. His comments in this publication are his own and do not represent the opinion of the Max Planck Institute for Plant Breeding Research.



Mutant fruit flies, though malformed, are still fruit flies

Mutations can introduce changes in plants—such as this mutant with large flowers—but only within limits



of breeding plants and animals. They thought that by inducing and selecting favorable mutations, they could produce new and better plants and animals."[20] In fact, some hoped to produce entirely new species.

Scientists in the United States, Asia, and Europe launched well-funded research programs using methods that promised to speed up evolution. After more than 40 years of intensive research, what were the results? "In spite of an enormous financial expenditure," says researcher Peter von Sengbusch, "the attempt to cultivate increasingly productive varieties by irradiation [to cause mutations], widely proved to be a failure."[21] And Lönnig said: "By the 1980's, the hopes and euphoria among scientists had ended in worldwide failure. Mutation breeding as a separate branch of research was abandoned in Western countries. Almost all the mutants . . . died or were weaker than wild varieties."*

Even so, the data now gathered from some 100 years of mutation research in general and 70 years of mutation breeding in particular enable scientists to draw conclusions regarding the ability of mutations to produce new species. After examining the evidence, Lönnig concluded: "Mutations cannot transform an original species [of plant or animal] into an entirely new one. This conclusion agrees with all the experiences and results of mutation research of the 20th century taken together as well as with the laws of probability."

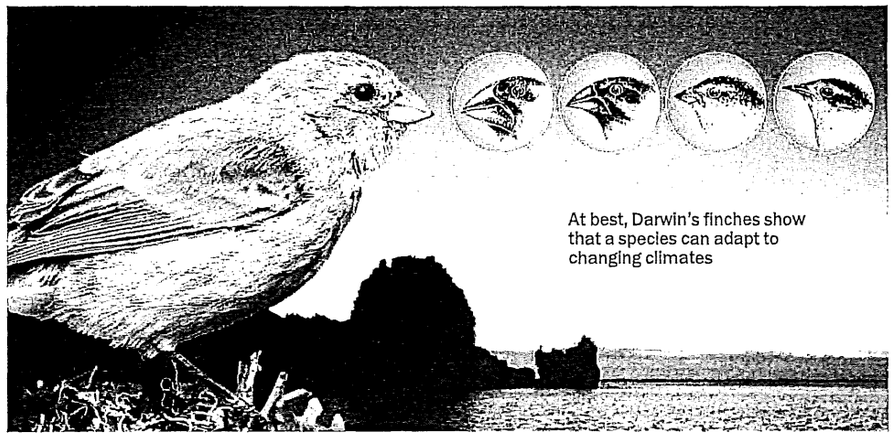
* Mutation experiments repeatedly found that the number of new mutants steadily declined, while the same type of mutants regularly appeared. In addition, less than 1 percent of plant mutations were chosen for further research, and less than 1 percent of this group were found suitable for commercial use. However, not one entirely new species was ever created. The results of mutation breeding in animals were even worse than in plants, and the method was abandoned entirely.

So, can mutations cause one species to evolve into a completely new kind of creature? The evidence answers no! Lönnig's research has led him to the conclusion that "properly defined species have real boundaries that cannot be abolished or transgressed by accidental mutations."[22]

Consider the implications of the above facts. If highly trained scientists are unable to produce new species by artificially inducing and selecting favorable mutations, is it likely that an unintelligent process would do a better job? If research shows that mutations cannot transform an original species into an entirely new one, then how, exactly, was macroevolution supposed to have taken place?

Myth 2. Natural selection led to the creation of new species. Darwin believed that what he called natural selection would favor those life-forms best suited to the environment, whereas less suitable life-forms would eventually die off. Modern evolutionists teach that as species spread and became isolated, natural selection chose the ones with gene mutations that made them capable of surviving in their new environment. As a result, evolutionists speculate, these isolated groups eventually developed into totally new species.

The facts. As previously noted, the evidence from research strongly indicates that mutations cannot produce entirely new kinds of plants or animals. Nevertheless, what proof do evolutionists provide to support the claim that natural selection chooses beneficial mutations to produce new species? A brochure published in 1999 by the National Academy of Sciences (NAS) in the United States refers to "the 13 species of finches studied by Darwin on the Galápagos Islands, now known as Darwin's finches."[23]



At best, Darwin's finches show that a species can adapt to changing climates

In the 1970's, a research group led by Peter R. and B. Rosemary Grant of Princeton University began studying these finches and discovered that after a year of drought on the islands, finches that had slightly bigger beaks survived more readily than those with smaller beaks. Since observing the size and shape of the beaks is one of the primary ways of determining the 13 species of finches, these findings were assumed to be significant. "The Grants have estimated," continues the NAS brochure, "that if droughts occur about once every 10 years on the islands, a new species of finch might arise in only about 200 years."[24]

However, the NAS brochure neglects to mention that in the years following the drought, finches with smaller beaks again dominated the population. The researchers found that as the climatic conditions on the island changed, finches with longer beaks were dominant one year, but later those with smaller beaks were dominant. They also noticed that some of the different "species" of finches were interbreeding and producing offspring that survived better than the parents. They concluded that if the interbreeding continued, it could result in the fusion of two "species" into just one.[25]

So, does natural selection really create entirely new species? Decades ago, evolutionary biologist George Christopher Williams began questioning whether natural selection had such power.[26] In 1999, evolutionary theorist Jeffrey H. Schwartz wrote that natural selection may be helping species adapt to the changing demands of existence, but it is not creating anything new.[27]

Indeed, Darwin's finches are not becoming "anything new." They are still finches. And the fact that they are interbreeding casts doubt on the methods some evolutionists use to define a species. In addition, information about these birds exposes the fact that even prestigious scientific academies are not above reporting evidence in a biased manner.

Beak drawings: From the book Journal of Researches, by Charles Darwin (1873); image courtesy Biodiversity Heritage Library

Myth 3. The fossil record documents macroevolutionary changes. The previously mentioned NAS brochure leaves the reader with the impression that the fossils found by scientists more than adequately document macroevolution. It declares: "So many intermediate forms have been discovered between fish and amphibians, between amphibians and reptiles, between reptiles and mammals, and along the primate lines of descent that it often is difficult to identify categorically when the transition occurs from one to another particular species."[28]

The facts. The confident statement made by the NAS brochure is quite surprising. Why? Niles Eldredge, a staunch evolutionist, states that the fossil record shows, not that there is a gradual accumulation of change, but that for long periods of time, "little or no evolutionary change accumulates in most species."*[29]

According to the fossil record, all the major groups of animals appeared suddenly and remained virtually unchanged

To date, scientists worldwide have unearthed and cataloged some 200 million large fossils and billions of small fossils. Many researchers agree that this vast and detailed record shows that all the major groups of animals appeared suddenly and remained virtually unchanged, with many species disappearing as suddenly as they arrived.

Belief in evolution —an act of "faith"

Why do many prominent evolutionists insist that macroevolution is a fact? Richard Lewontin, an influential evolutionist, candidly wrote that many scientists are willing to accept unproven scientific claims because they "have a prior commitment, a commitment to materialism."* Many scientists refuse even to consider the possibility of an intelligent Designer because, as Lewontin writes, "we cannot allow a Divine Foot in the door."[30]

In this regard, sociologist Rodney Stark is quoted in *Scientific American* as saying: "There's been 200 years of marketing that if you want to be a scientific person you've got to keep your mind free of the fetters of religion." He further notes that in research universities, "the religious people keep their mouths shut."[31]

If you are to accept the teaching of macroevolution as true, you must believe that agnostic or atheistic scientists will not let their personal beliefs influence their interpretations of scientific findings. You must believe that mutations and natural selection produced all complex lifeforms, despite a century of research that shows that mutations have not transformed even one properly defined species into something entirely new. You must believe that all creatures gradually evolved from a common ancestor, despite a fossil record that strongly indicates that the major kinds of plants and animals appeared abruptly and did not evolve into other kinds, even over aeons of time. Does that type of belief sound as though it is based on facts or on myths? Really, belief in evolution is an act of "faith."

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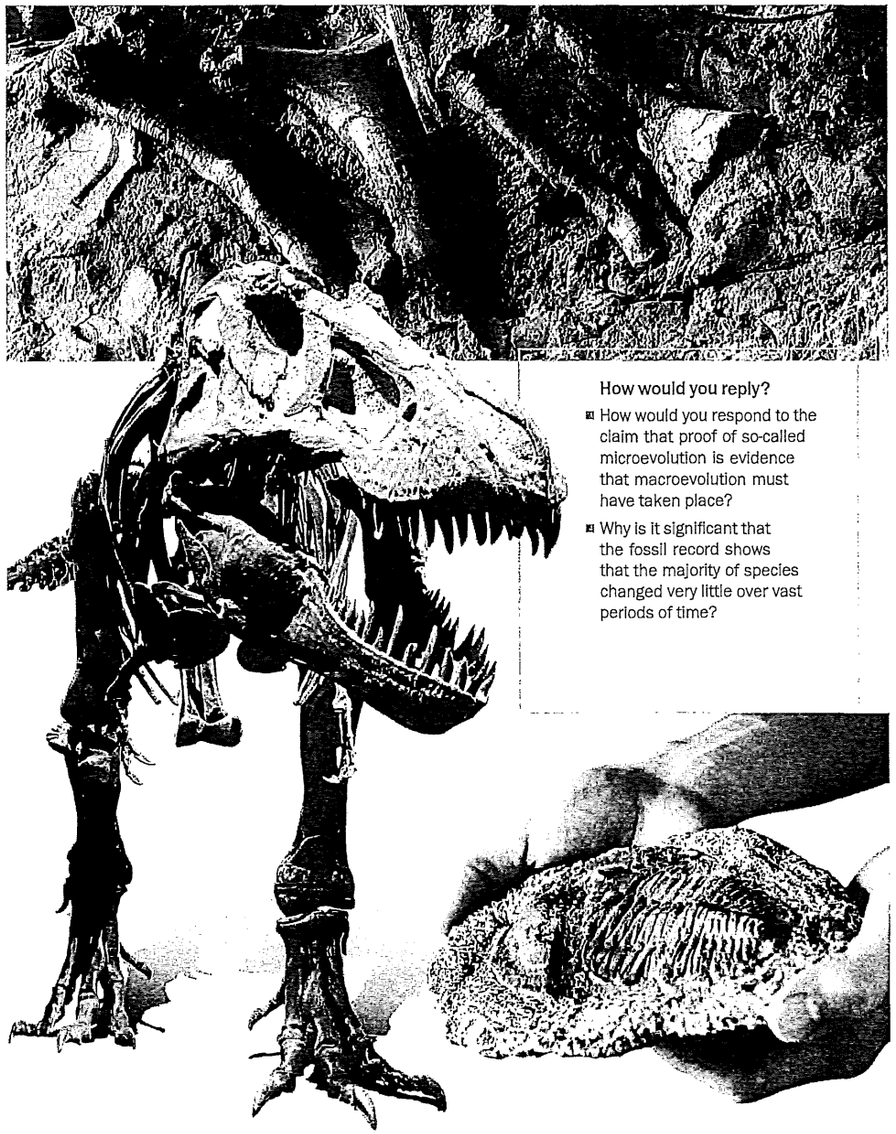
* Even the few examples from the fossil record that researchers point to as proof of evolution are open to debate. See pages 22 to 29 of the brochure, *The Origin of Life—Five Questions Worth Asking*, published by Jehovah's Witnesses.

* "Materialism," in this sense, refers to a theory that everything in the universe, including all life, came into existence without any supernatural intervention in the process.



How would you reply?

- How would you respond to the claim that proof of so-called microevolution is evidence that macroevolution must have taken place?
- Why is it significant that the fossil record shows that the majority of species changed very little over vast periods of time?

Science and the Genesis account

Many people claim that science disproves the Bible's account of creation. However, the real contradiction is, not between science and the Bible, but between science and the opinions of Christian Fundamentalists. Some of these groups falsely assert that according to the Bible, all physical creation was produced in six 24-hour days approximately 10,000 years ago.

The Bible, however, does not support such a conclusion. If it did, then many scientific discoveries over the past one hundred years would indeed discredit the Bible. A careful study of the Bible text reveals no conflict with established scientific facts. For that reason, Jehovah's Witnesses disagree with Christian Fundamentalists and many creationists. The following shows what the Bible really teaches.

When was "the beginning"?

The Genesis account opens with the simple, powerful statement: "In the beginning God created the heavens and the earth." (Genesis 1:1) A number of Bible scholars agree that this statement describes an action separate from the creative days recounted from verse 3 onward. The implication is profound. According to the Bible's opening words, the universe, including our planet, Earth, was in existence for an indefinite time *before* the creative days began.

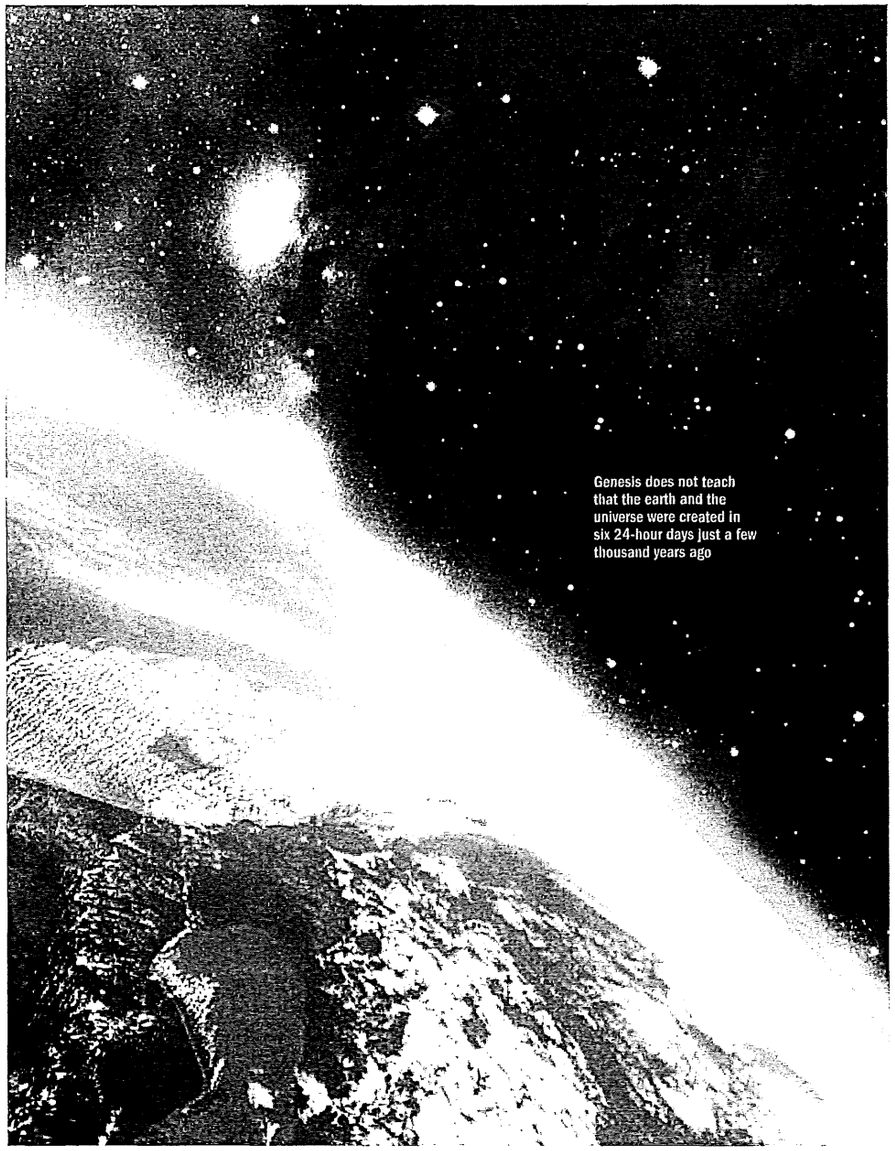
Geologists estimate that the earth is 4 billion years old, and astronomers calculate that the universe may be as much as 15 billion years old. Do these findings—or their potential future refinements—contradict Genesis 1:1? No. The Bible does not specify the actual age of "the heavens and the earth." Science is not at odds with the Biblical text.

How long were the creative days?

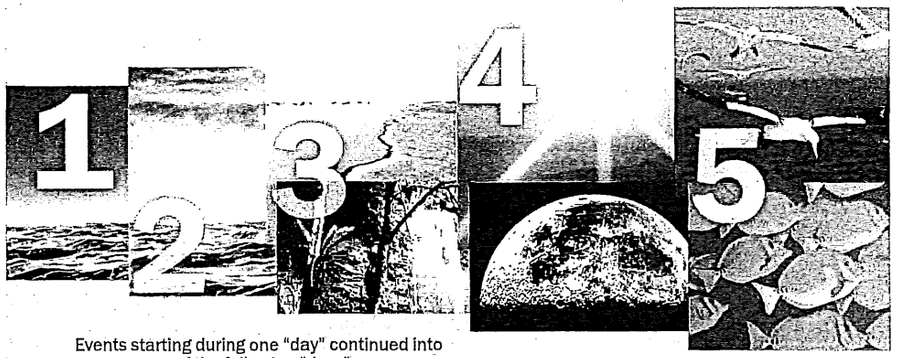
What about the length of the creative days? Were they literally 24 hours long? Some claim that because Moses—the writer of Genesis—later referred to the day that followed the six creative days as a model for the weekly Sabbath, each of the creative days must be literally 24 hours long. (Exodus 20:11) Does the wording of Genesis support this conclusion?

No, it does not. The fact is that the Hebrew word translated "day" can mean various lengths of time, not just a 24-hour

Nebula MC/RGO/David Malin Images



Genesis does not teach that the earth and the universe were created in six 24-hour days just a few thousand years ago



Events starting during one "day" continued into one or more of the following "days"

period. For example, when summarizing God's creative work, Moses refers to all six creative days as one day. (Genesis 2:4) In addition, on the first creative day, "God began calling the light Day, but the darkness he called Night." (Genesis 1:5) Here, only a portion of a 24-hour period is defined by the term "day." Certainly, there is no basis in Scripture for arbitrarily stating that each creative day was 24 hours long.

How long, then, were the creative days? The Bible does not say; however, the wording of Genesis chapters 1 and 2 indicates that considerable lengths of time were involved.

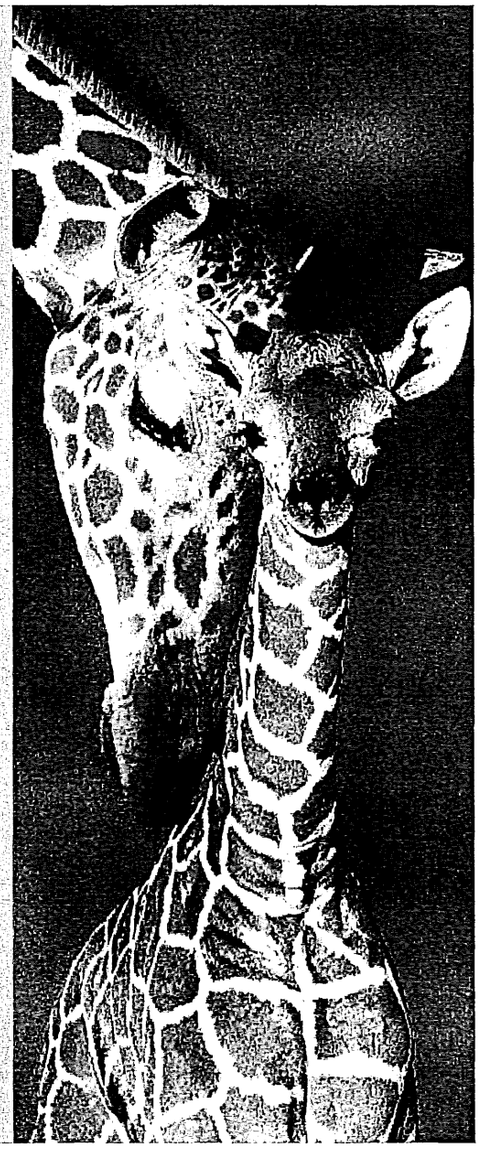
Six creative periods

Moses wrote his account in Hebrew, and he wrote it from the perspective of a person standing on the surface of the earth. These two facts combined with the knowledge that the universe existed before the beginning of the creative periods, or days, help to defuse much of the controversy surrounding the creation account. How so?

A careful consideration of the Genesis account reveals that events starting during one "day" continued into one or more of the following "days." For example, before the first creative "day" started, light from the already existing sun was somehow prevented from reaching the earth's surface, possibly by thick clouds. (Job 38:9) During the first "day," this barrier began to clear, allowing diffused light to penetrate the atmosphere.*

On the second "day," the atmosphere evidently continued to clear, creating a space between the thick clouds above and the ocean below. On the fourth "day," the atmosphere gradually cleared to such an extent that the sun and the moon were made to appear "in the expanse of the heavens." (Genesis 1:14-16) In other words, from the perspective of a person on earth, the sun and moon began to be discernible. These events happened gradually.

* In the description of what happened on the first "day," the Hebrew word used for light is *'ohr*, light in a general sense, but concerning the fourth "day," the word used is *ma·'ohr'*, which refers to the source of light.



The Genesis account also relates that as the atmosphere continued to clear, flying creatures—including insects and membrane-winged creatures—started to appear on the fifth "day."

The Bible's narrative allows for the possibility that some major events during each day, or creative period, occurred gradually rather than instantly, perhaps some of them even lasting into the following creative days.*

According to their kinds

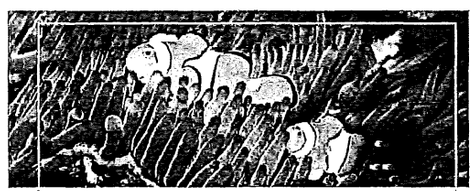
Does this progressive appearance of plants and animals imply that God used evolution to produce the vast diversity of living things? No. The record clearly states that God created all the basic "kinds" of plant and animal life. (Genesis 1:11, 12, 20-25) Were these original "kinds" of plants and animals programmed with the ability to adapt to changing environmental conditions? What defines the boundary of a "kind"?

* For example, during the sixth creative day, God decreed that humans "become many and fill the earth." (Genesis 1:28, 31) Yet, this event did not even begin to occur until the following "day."—Genesis 2:2.

Modern research confirms that all living things reproduce "according to their kinds"

The Bible does not say. However, it does state that living creatures "swarmed forth according to their kinds." (Genesis 1:21) This statement implies that there is a limit to the amount of variation that can occur within a "kind." Both the fossil record and modern research support the idea that the fundamental categories of plants and animals have changed little over vast periods of time.

Contrary to the claims of some religious fundamentalists, Genesis does not teach that the universe, including the earth and all living things on it, was created in a short period of time in the relatively recent past. Rather, aspects of the description in Genesis of the creation of the universe and the appearance of life on earth harmonize with recent scientific discoveries.



Penguins: By courtesy of John R. Pehlidger

Because of their philosophical beliefs, many scientists reject the Bible's declaration that God created all things. Interestingly, however, in the ancient Bible book of Genesis, Moses wrote that the universe had a beginning and that life appeared in stages, progressively, over periods of time. How could Moses gain access to such scientifically accurate information some 3,500 years ago? There is one logical explanation. The One with the power and wisdom to create the heavens and the earth could certainly give Moses such advanced knowledge. This gives weight to the Bible's claim that it is "inspired of God."*—2 Timothy 3:16.

You may wonder, though, does it really matter whether you believe the Bible's account of creation? Consider some compelling reasons why the answer does matter.

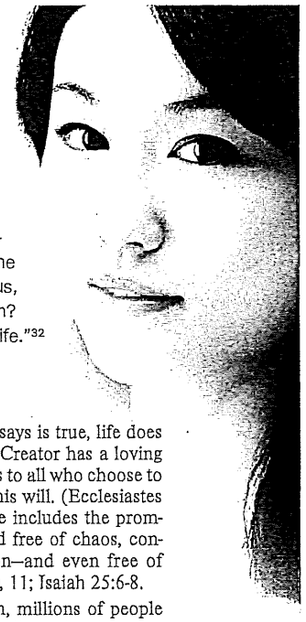
* For more information, watch the brief video *How Can We Be Sure the Bible Is True?* available on jw.org.

How would you reply?

- What are some common misconceptions about the Bible's account of creation?
- Why is it remarkable that the Bible and science agree on many points?

Does it matter what you believe?

Do you think that life has a purpose? Evolutionist William B. Provine says: "What we have learned about the evolutionary process has enormous implications for us, affecting our sense of meaning in life." His conclusion? "I can see no cosmic or ultimate meaning in human life."[32]



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Consider the significance of those words. If ultimate meaning in life were nonexistent, then you would have no purpose in living other than to try to do some measure of good and perhaps pass on your genetic traits to the next generation. At death, you would cease to exist forever. Your brain, with its ability to think, reason, and meditate on the meaning of life, would simply be an accident of nature.

That is not all. Many who believe in evolution assert that God does not exist or that he will not intervene in human affairs. In either case, our future would rest in the hands of political, academic, and religious leaders. Judging from the past record of such men, the chaos, conflict, and corruption that blight human society would continue. If, indeed, evolution were true, there would seem to be ample reason to live by the fatalistic motto: "Let us eat and drink, for tomorrow we are to die."—1 Corinthians 15:32.

By contrast, the Bible teaches: "With [God] is the source of life." (Psalm 36:9) Those words have profound implications.

If what the Bible says is true, life does have meaning. Our Creator has a loving purpose that extends to all who choose to live in accord with his will. (Ecclesiastes 12:13) That purpose includes the promise of life in a world free of chaos, conflict, and corruption—and even free of death.—Psalm 37:10, 11; Isaiah 25:6-8.

With good reason, millions of people around the world believe that learning about God and obeying him give meaning to life as nothing else can! (John 17:3) Such a belief is not based on mere wishful thinking. The evidence is clear —life was created.

How would you reply?

- What are you inclined to believe—that we evolved or that we were created? Why do you so answer?
- What are some good reasons for examining the basis for your beliefs?

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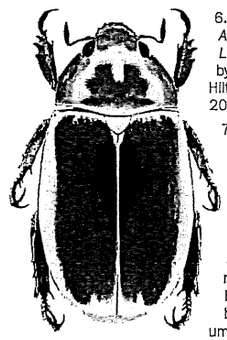

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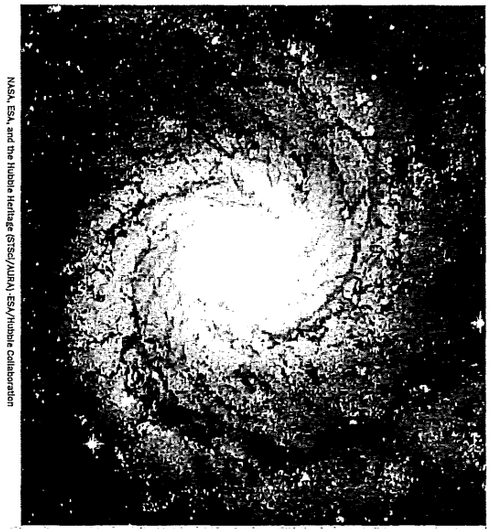

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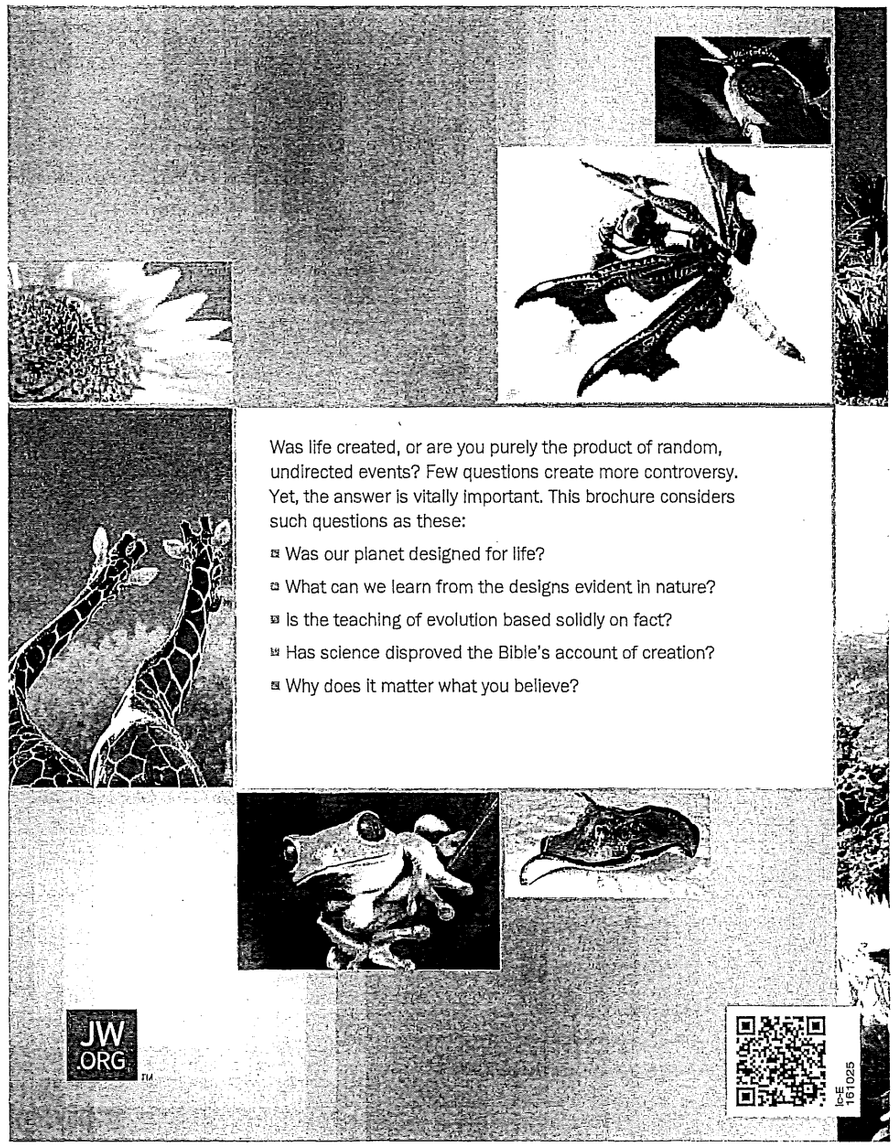

Was life created, or are you purely the product of random, undirected events? Few questions create more controversy. Yet, the answer is vitally important. This brochure considers such questions as these:

- Was our planet designed for life?
- What can we learn from the designs evident in nature?
- Is the teaching of evolution based solidly on fact?
- Has science disproved the Bible's account of creation?
- Why does it matter what you believe?

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