

THE
ECOLOGICAL
BOOK



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& JEAN LIGHTNER

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Table of Contents



**How to
Use This Book** 5



Chapter 1
**Harmony
in Creation** 6



Chapter 2
**Ecology: The
Study of "Our House"** 10



Chapter 3
**The Dominion
Mandate** 18



Chapter 4
**What's on
the Menu Today?** 24



Chapter 5
**Taking a
Liking to Lichens** 32



Chapter 6
A Fungus Among Us 42



Chapter 7
**The Plant –
Bacteria Connection** 52



Chapter 8
**Of Bacteria,
Cattle, and Men** 62



Chapter 9
**To the Root
of the Matter** 70



Chapter 10
**Doing Ecology
in God's Creation** 76



Appendix A
**Tips for Doing Good
Science Experiments** 84



Appendix B
**Simplified Ecological
Sampling Methods** 86



Glossary and Index 88

Our Best-selling Wonders of Creation Series is getting even better!

The series is being developed with an enhanced educational format and integrated with a unique color-coded, multi-age level design to allow ease of teaching the content to three distinct grade levels.



**BUILDING
MEMORIES**

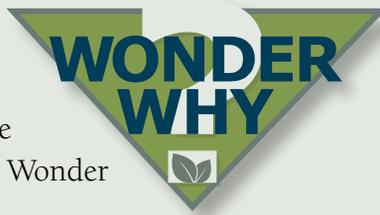
How to use this book

The Ecology Book has been developed with three educational levels in mind. These can be utilized for the classroom, independent study, or homeschool setting. For best possible comprehension, it is recommended that every reader examine the text on the off-white background. More skilled readers can then proceed to the green sections as well. Finally, the most advanced readers may read through all three sections. Look for the following icons and special features throughout the book:

- > Level 1
- > Level 2
- > Level 3

Level One

- Text on off-white background
- 5th to 6th grades
- The basic level is presented for younger readers and includes the Building Memories and Wonder Why segments.



WHO

WHAT

WHERE

WHY

HOW

THE BIG FIVE

Each chapter addresses the who, what, where, why, and how of important ecological and historical information. This information may be found on any level.

Level Two

- Text on green background
- 7th to 8th grades
- This middle level delves deeper into ecological issues related to today's environmental concerns, utilizing Words to Know and practical applications.

Words to know

These words found throughout the upcoming chapter present a quick glimpse of important concepts coming up.

Level Three

- Text on blue background
- 9th to 11th grades
- This upper level incorporates concepts and theories related to all subject matter included in the text, as well as unique information within the Dig Deeper sections.



Look in the pages of the history of ecology at the men who have influenced the world in the realm of ecology with these level three insights.



Make a Difference!

Watch for ways you can make a difference in your home or community. It is a joy to give back when you can!

Oh God, the Triune God, I want to want thee; I long to be filled with longing; I thirst to be made more thirsty still.

— A. W. Tozer

Chapter 1

Harmony in Creation



> Level 1

> Level 2

> Level 3

Many people struggle to understand the concept of the Trinity. To some it seems contradictory (confusing). They reason that if there are three persons, then there must be three gods. This is not the case. The Bible makes it very clear that there is only one true God.

Hear, O Israel: The LORD our God, the LORD is one. [echad in Hebrew] (Deut. 6:4).

It is possible for more than one person to be considered one.

Therefore a man shall leave his father and mother and be joined to his wife, and they shall become one [echad] flesh (Gen. 2:24).

Even in our culture today, we understand that one team is made up of more than one person. The fact that the Father, Son, and Holy Spirit are one has some important implications.



WHO

Who created the world?

WHAT

What does Trinity mean in relation to God?

WHERE

Where do we see relationships in life?

WHY

Why is an understanding of a triune God important for the origin of love and the observations that most organisms are in cooperative relations with one another?

HOW

How does the Bible provide the basis for science?

THE BIG FIVE

Words to know

- Mutualism (symbiosis)
- Commensalism
- Parasitism
- Trinity
- Harmony
- Hypotheses

Scientists classify relationships between different organisms into several general categories. Three of these are mutualism, where both organisms benefit from the relationship; commensalism, where one organism benefits while the other seems unaffected; and parasitism, in which one partner benefits while the other is harmed. Often organisms produce a combination of one or more of the above relations, and it is difficult to classify them.



God Reveals Himself as Triune

From the very first chapters of Genesis, God reveals who He is and how He created the world. In the original Hebrew language, the word for God (Elohim) is plural. Oddly, it is used with a singular verb. This would seem grammatically incorrect, something like saying “they creates” in English. Yet this is the pattern that is regularly seen in the Hebrew: God (Elohim) is plural, but the verb describing His action is singular. Bible scholars have often described this as the plural of majesty. In other words, the word for God is plural to indicate how great He is.

Within the first chapter of Genesis, it becomes apparent that more than this is going on.

Then God said, “Let Us make man in Our image, according to Our likeness; let them have dominion over the fish of the sea, over the birds of the air, and over the cattle, over all the earth and over every creeping thing that creeps on the earth.” (Gen. 1:26).

Notice the first three pronouns that are used (us, our, our). Who is God talking to Himself? Some angelic beings? The answer is found in the next verse.

So God created man in His own image; in the image of God He created him; male and female He created them. (Gen. 1:27).

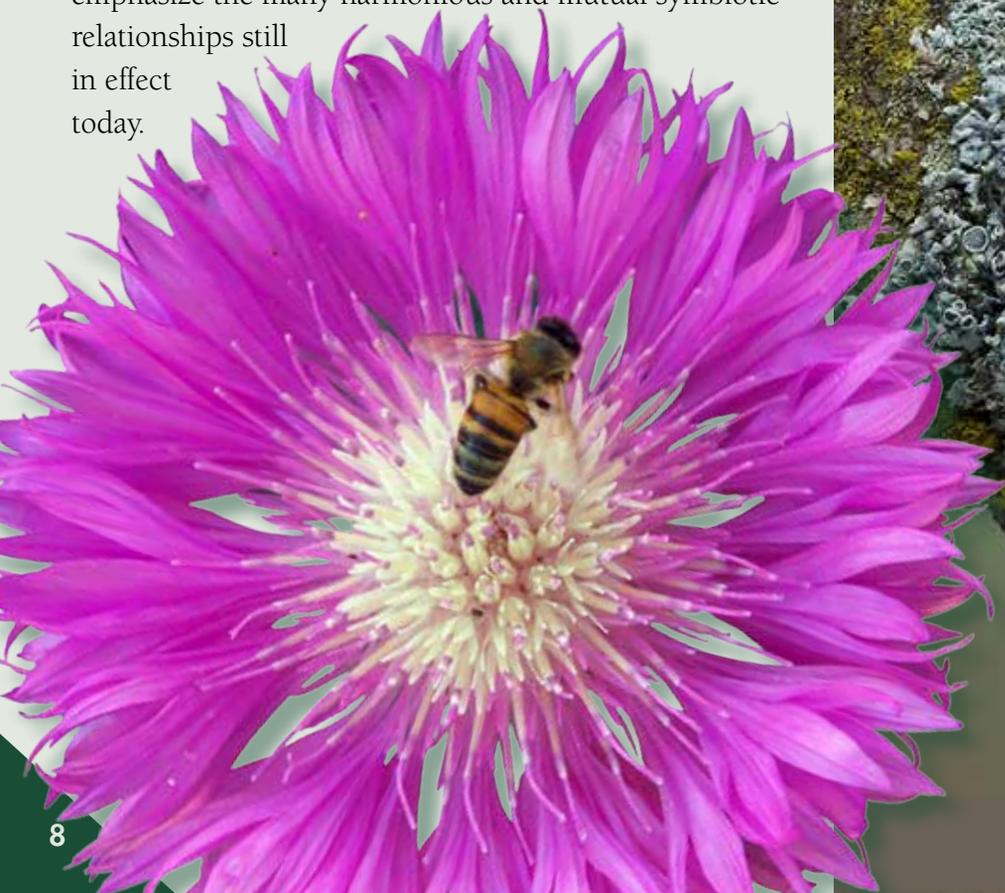
These verses provide us with the first clue that God is triune. While the word Trinity does not appear in the Bible, the concept does — beginning in Genesis. The teaching of trinity has been important throughout Church history. It can be summed up as the belief that there is one God who has always existed as three persons: Father, Son, and Holy Spirit.

Harmony within the Godhead Reflected in Creation

God exists as a Trinity, so He is, by nature, relational. This makes sense of the fact that God is love (1 John 4:16) and God is one (Deut. 6:4). God is love and has always been so. There has always been loving harmony between Father, Son, and Holy Spirit, even before creation. God is one, and He desires for people, who were created in His image, to be able to share in this, just as we find in Jesus' prayer for his disciples:

I do not pray for these alone, but also for those who will believe in Me through their word; that they all may be one, as You, Father, are in Me, and I in You; that they also may be one in Us, that the world may believe that You sent Me. (John 17:20–21).

The implications of the Trinity extend beyond this. All of creation was originally created with important harmonious relationships. Plants were created as food for animals and people (Gen. 1:29–30). People were created to rule over and care for creation (Gen. 1:25–28; 2:15). As we explore the world around us, we will find many other examples of relationships. In this book, we will emphasize the many harmonious and mutual symbiotic relationships still in effect today.



Harmony Broken

When God finished creating, He declared everything “very good” (Gen. 1:31). Unfortunately, this did not last for long. People were created with a will and the ability to make choices. Soon Adam and Eve made the choice to disobey the one command that God gave them. They ate from the tree of the knowledge of good and evil. In doing this, they came to experience brokenness and death. There was brokenness in their relationship with God, and they hid from Him (Gen. 3:8). There was brokenness in their relationship with each other (Gen. 3:16), and there was brokenness in their relationship with the world around them (Gen. 3:17–19; Rom. 8:20–22).



Natural Disharmony

Because of brokenness and death, disharmony is also found in creation. Because the Bible describes the creation as a very good creation in the beginning, creation biologists recognize that disharmony is a result of relationships gone awry since the Fall (Gen. 3). They seek to explain how they may have come about. Hypotheses (educated guesses) include negative genetic changes of the original good organism and/or the movement or displacement of the creature from where it originally performed its good function.



Reflections

- Can you think of a relationship in nature that is positive for everyone and may reflect how things were originally created to be?
- Can you think of a relationship in nature that reflects disharmony associated with the Fall?



“When one tugs at a single thing in nature,
he finds it attached to the rest of the world.”

— John Muir

Chapter 2

Ecology: The Study of “Our House”

The darkness surrounded us as we inched down the woodland trail. As the nearly full moon rose above the horizon, I could barely see the teens behind me. The science students huddled together for protection because they had never walked in a forest at night.

You might ask, “Why would anyone do that?” Well, the students wanted to experience the creatures and overcome their fear of the dark. The forest at night is filled with mystery and beauty, and as we continued farther, wonder replaced their fear. Above our heads, baby owls screamed for their mamas. Flying over the wet grass, fireflies flashed their lanterns. Across the lake, bullfrogs bellowed their “jug-o-rum” chorus. It was an experience the students would never forget, and they had lots of questions. Does the kind of water affect where bullfrogs live? What is a firefly’s light used for? Do owls have relationships with other animals? How is the soil dependent on the forest and the forest dependent on the soil? Why do some creatures come out at night and others come out in the day? These are the sorts of questions ecologists are interested in. An ecologist studies the relationships creatures have with each other and with their habitats (home).



> Level 1

> Level 2

> Level 3

WHO	THE BIG FIVE	Who were William Derham and Ernst Haeckel?
WHAT		What does the word ecology mean?
WHERE		Where do ecologists primarily work?
WHY		Why do natural cycles, such as the water cycle, exist?
HOW		How were scientific names for animal created?

Words to know	Abiotic	Evaporation
	Baraminology	Evapotranspiration
	Biodiversity	Hybridization
	Biome	(hybrids)
	Biosphere	Population
	Biotic	Precipitation
	Condensation	Protocol
	Discharge	Recharge
	Ecology	Species
	Ecological System (Ecosystem)	Sublimation
		Watershed