

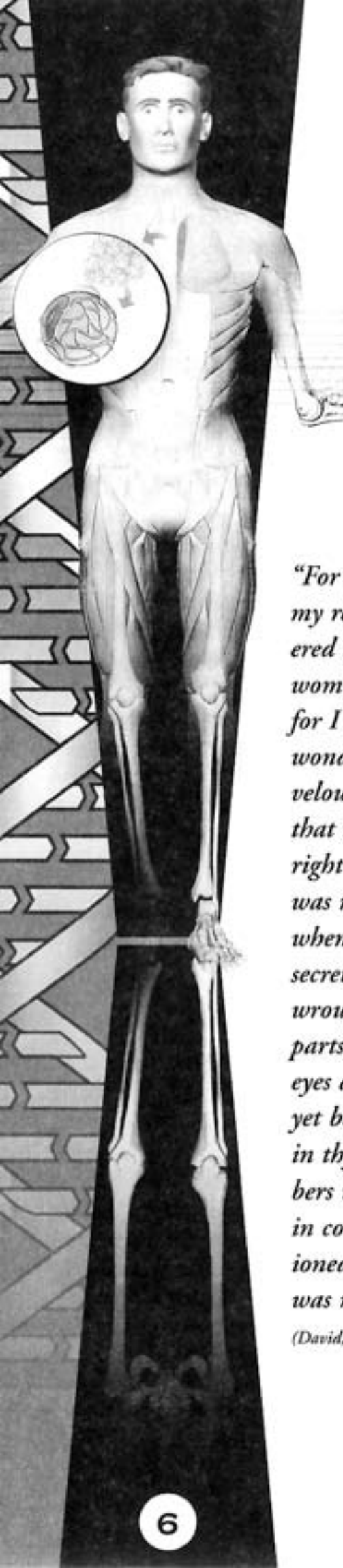
BODY BY design

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RECOGNIZING DESIGN IN THE HUMAN BODY

CHAPTER 1



"For thou hast possessed my reins: thou hast covered me in my mother's womb. I will praise thee; for I am fearfully and wonderfully made: marvelous are thy works; and that my soul knoweth right well. My substance was not hid from thee, when I was made in secret, and curiously wrought in the lowest parts of the earth. Thine eyes did see my substance, yet being imperfect; and in thy book, all my members were written, which in continuance were fashioned, when as yet there was none of them"

(David, Ps. 139:13-16).

The powerful, unceasing beating of the heart, the intricacy of blood clotting, the complex, camera-like eye, the double helix pattern in DNA, and the skillful hand of a surgeon are all examples of intricate designs found in the human body. The origin of these patterns is a topic that has fascinated biologists since the time of the ancient Greeks. It was not until the time of Vesalius (1514-64), however, that the dissection of cadavers was allowed in the study of human anatomy. It was also during this era that the scientific method was first used by William Harvey (1578-1657) in human physiology, and that good biology began to demand proof from experiments, not just "logical" and speculative thinking. Beginning with the **Reformation** time period (and later during the **Renaissance**) man began to really understand "wisdom of the inward parts" and to seek to understand products of the Creator's design and plan for the human body. In those days, many explorers of the human body began "*thinking God's thoughts after Him.*"

The Webster's dictionary defines **design** as a plan, a scheme, a project, or a purpose with intention or aim. Today, many are asking whether these observed designs are the product of evolution or if they are the "fingerprints" of a master creator. Many biologists view man as the product of cosmic evolution from some hominid ancestor. Still other biologists question this naturalistic model of human descent because there is a unique plan and pattern to the human body. Today, many biologists are reconsidering design and are seeing *Homo sapiens* (literally, man who is wise) as the pinnacle of design because of his spectacular cell biology, anatomy, and physiology.

The Fabrica View of the Human Body

Thou didst form me from my mother's womb.

The Psalmist, in his song of praise to God, is beautifully picturing the weaving together of a human being within the womb. However, the Psalmist had no idea of how scientifically true his picture was. In the Old Testament era, man had never heard of DNA or RNA, the helical and symmetrical molecules that are woven together to produce the blueprint of life. Yet with great accuracy, the Psalmist depicts the skillful fabric of the human body.

During the Great Reformation, a Belgian anatomist and physician began to unlock the mysteries of the human body. Andreas Vesalius (figure 1.1), born in Brussels in 1514, changed anatomy forever. Vesalius, a devout Roman Catholic, understood there to be a Master Craftsman behind the fabric design in the human body. During the 1530s, Vesalius developed a great interest in anatomy by studying the body parts of human cadavers. After completing a medical degree, he taught young medical students by performing dissections as he lectured. Vesalius did not follow the traditional approach of merely reading from books as he taught anatomy. Ancient Roman physicians such as Galen had studied the body parts by dissecting animals. Vesalius, however, turned to human corpses for his dissections. His radical methods enabled him to write the text *De Humani Corporis Fabrica* (The Fabric of the Human Body), the most accurate and comprehensive book on human anatomy ever written in his time. The seven-volume work was completely illustrated with hand-made engravings by Vesalius himself. These diagrams vividly proved the theme of a divine designer in the interwoven human body.

Because of his great work, Vesalius was appointed as royal physician to Phillip II in Madrid. In 1564, Vesalius died in a shipwreck after a trip to the Holy Land, but he lived on in his masterpiece, *Fabrica*. This book

boldly challenged hundreds of Galen's teachings on how the body operates. Many traditional anatomists attacked Vesalius' book, but failed in every attempt. No matter where the opponents looked, they were rebuffed with the accuracy of details he used in describing the human body and the vivid drawings depicting the interwoven designs. Both text and drawing could be verified by dissection of human cadavers.

Everywhere a scientist studies in the human body, he is confronted with a designer behind the seamlessly interwoven design of the lymphatic, immune, circulatory, respiratory, and digestive systems. Like the idea in Vesalius' *Fabrica*, many body systems illustrate the blueprint of a divine weaver, craftsman, or artificer. The interwoven complexity, along with the organs' intricacies, defies chance. The infinitely low probability of macroevolution occurring by mutations and selection points to an intelligent designer. There must have been a Creator to make such a beautiful fabric of the body systems, all originating from a microscopic blueprint called DNA.

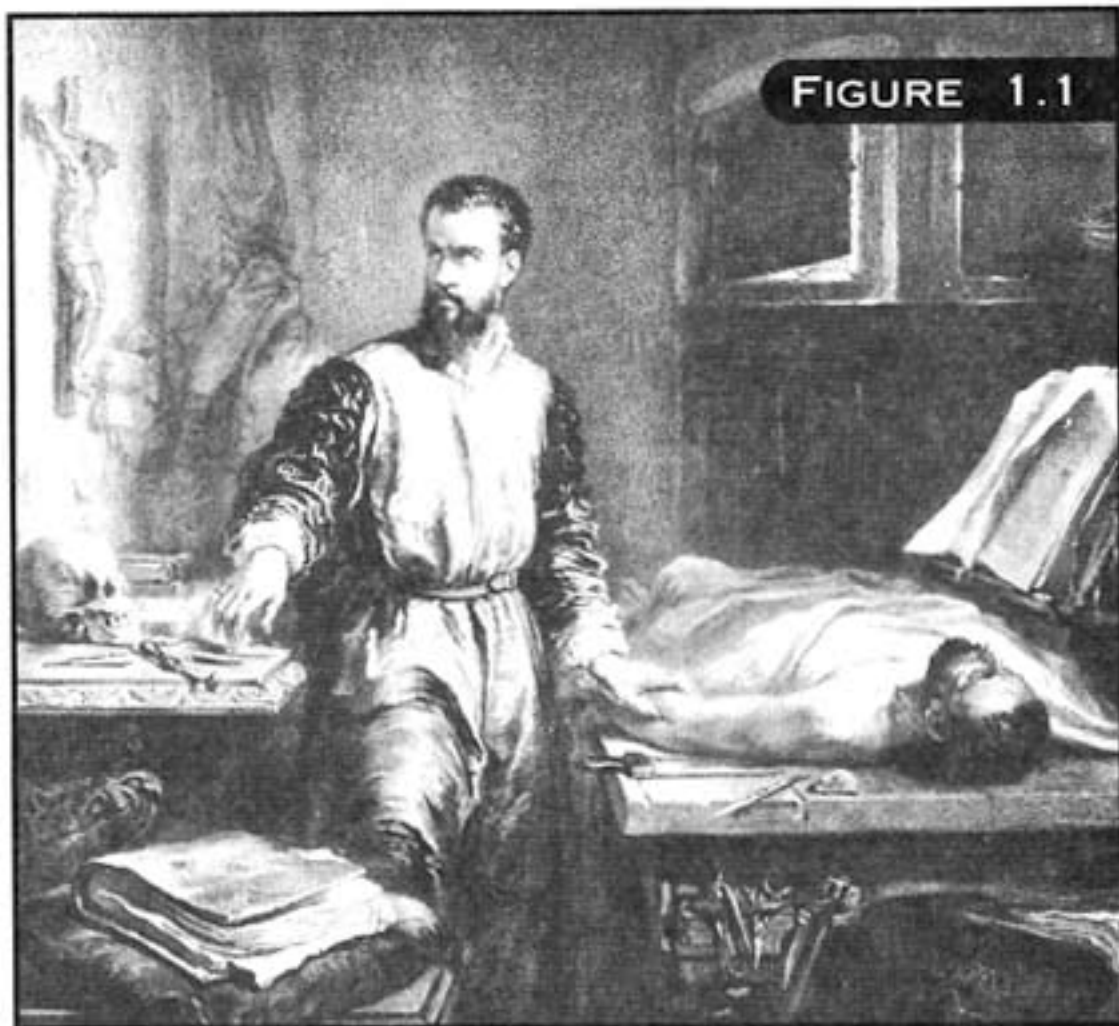


FIGURE 1.1

Andreas Vesalius, a devout Roman Catholic, understood that there was a Master Craftsman behind the fabric-like design in the human body.

The intertwining design of the human body will be shown in the manual by the fabric of DNA, embryonic development, muscle construction, alveoli of lungs, convoluted tubules of kidneys, capillaries of lymphatic and circulatory systems, intertwining nature of heart chambers, and many other body systems.

BOOK OBJECTIVES

The purpose of this book is to:

- Describe the designed structures and purposeful functions for each of the 11 systems in the human body;
- Explain selective in-depth explorations for interwoven components and body parts for each system;
- Compare and contrast the interwoven design observed in cloth/fabric with the patterns seen in each system of the human body;
- Provide examples of disease in each of the body systems from a clinical and/or creation perspective; and
- Explain the historical Reformation viewpoint of anatomy and physiology.

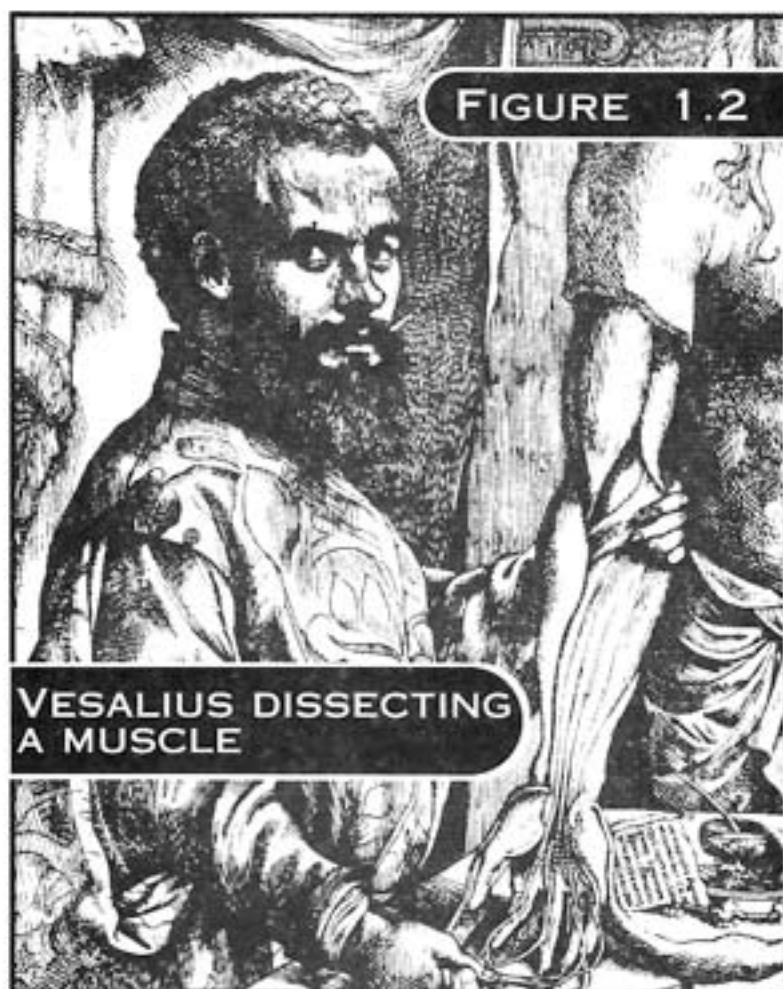
We begin with Vesalius, Father of Modern Anatomy, and trace the creation model of the human body through the year 2000, including the technology-based research projects of today.

Many of the terms that are useful in discussing such a plan can be found in the glossary.

The complexity of the human body is direct evidence against macroevolution. All the interwoven parts of the body point to an intelligent Creator. In the early 1990s, Dr. Charles Thaxton argued for the intelligent design of the human body. His argument is called the principle of uniform experience. To illustrate the complex nature of this principle, one needs to look at the formation of a beautiful tapestry in a weaver's loom. First, a fabric designer needs to sit down and design the blueprint for the tapestry. She needs to decide which colors to use and what type of pattern she will use the colors in. The seamstress must also decide what type of fabric she will use for the tapestry. She cannot randomly pick colors and fabrics, for they must coordinate and complement each other. Next, the weaver must decide how to mix and intertwine the strands of thread. On a simple loom, she will weave the secondary threads under and over the primary threads. Each individual thread meshes tightly against the next thread. Slowly, carefully, the designer weaves together her beautiful

picture, one thread at a time. When the seamstress has finished her picture, she releases it from the loom.

All customers who look at the tapestry see only the one complete fabric. However, if one would look close enough, he could see all the individual threads seamlessly woven together. Anyone looking at the rich tapestry and the vibrant colors would immediately praise the designer, because they realize that only a Master Designer could produce such a magnificent work of art. Yet, the very same people will turn around and claim that the complex human body happened by chance. The body, however, is woven together just like a tapestry. For example, look at the interwoven complexity of a single skeletal muscle. When one initially glances at a muscle, he sees a tough, translucent mass of tissue. Under the microscope, however, the amazing interwoven design manifests itself. Each muscle is composed of muscle fiber bundles (figure 1.5). In each fiber, many myofibrils and nuclei are enclosed within a common sarcolemma. Each myofibril contains numerous sarcomeres, arranged end to end in a single file. There are millions of sarcomeres in a single muscle with each overlapping the next one in a long string. These sarcomeres have two parts to them. Thin actin filaments surround a thick myosin filament. When the actin filaments contract across the myosin filament, the muscle contracts. The muscle will not move until every sarcomere is contracting the same way. Therefore, nerves repeat the message to other neighboring muscle fibers.



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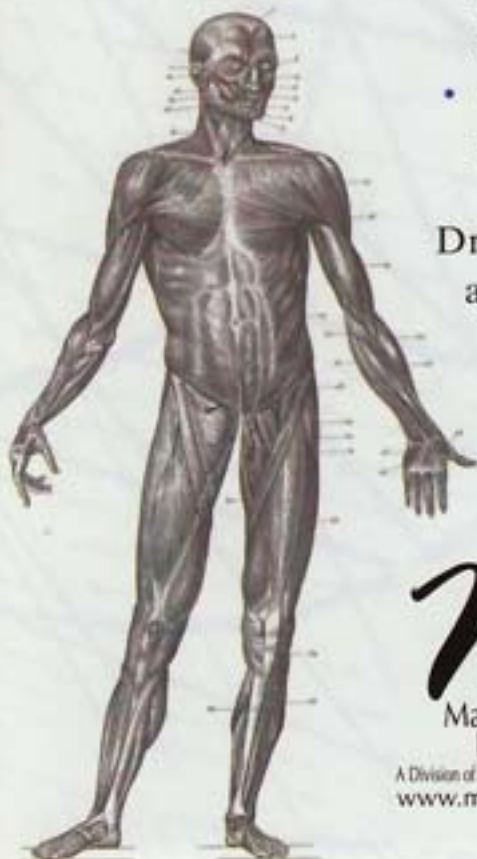


Body by Design defines the basic anatomy and physiology in each of 11 body systems from a creational viewpoint. Every chapter explores the wonder, beauty, and creation of the human body, giving evidence for creation, while exposing faulty evolutionistic reasoning.

Special explorations into each body system look closely at disease aspects, current events, and discoveries, while profiling the classic and contemporary scientists and physicians who have made remarkable breakthroughs in studies of the different areas of the human body.

- *Body by Design* is an ideal textbook for Christian high school or college students.
- It utilizes tables, graphs, focus sections, diagrams, and illustrations to provide clear examples and explanations of the ideas presented.
- Questions at the end of each chapter challenge the student to think through the evidence presented.

Dr. Alan Gillen is a biologist and zoologist with a doctorate in Science Education. Having taught biology for two decades at all grade levels, Dr. Gillen is presently a Professor of Biology at Liberty University.



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A Division of New Leaf Publishing Group
www.masterbooks.net

EDUCATION / SCIENCE AND TECHNOLOGY / ANATOMY & PHYSIOLOGY

\$13.99 U.S.

ISBN-13: 978-0-89051-296-8

ISBN-10: 0-89051-296-5



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