

Chapter 15**ORIGINS: IT MATTERS WHERE YOU START**

OVERVIEW: Influence of worldviews in addressing the "origins question;" contrasting origins science from operations science helps us realize the limitations that must be recognized

STRATEGY: Read pages 323-328 of Chapter 15, but first, note the *two controversial questions* stated in the introduction. Then, skim the whole chapter, noting the headings, and illustrations. Finally, read marginal captions during a second skimming of the whole chapter. In addition to pp. 328-338 noted above, read the "Historical Background", pages 322-330, which you should find informative and interesting.

VOCABULARY:

historical biology
inductive biology
worldview
fossil

naturalism
supernaturalism
uniformitarianism
catastrophism

creationist
theistic evolutionist
artificial selection
natural selection

LEARNING GOALS:

1. Natural sciences have been able to conquer the frontiers of "far away space" and "microscopic size", but is struggling to conquer the frontier of the "far away past." Why?
2. Become proficient in explaining the most logical approach you should take in entering a conversation with someone who believes life originated by evolution. Where would you begin?
3. Explain how the human view of "fixity of kinds" tended to change from Moses, Aristotle and Bible times to the time of Darwin.
4. Use the scenario of "Tracks" to explain the distinction between *historical biology* and *inductive biology*. Is this distinction in the sciences legitimate?

NETWORKING: Visit several "origins societies" that focus on origins on Internet; and make bookmarks for later reference, especially if you are in Education or Biblical Study. See the BIO 100 "Internet Sites" page for Assignment #32.

FLASHBACK REVIEW: Refer to Assignment #2 and our discussion of Science and Faith, and Worldviews. This will help you as we consider the controversial topic of the "Origin of Life."

LECTURE EMPHASIS will follow the **LEARNING GOALS** noted above, using the study aids on the following pages.

TRACKS

	FOSSIL TRACKS	FRESH TRACKS
1. WHAT ?	IMPRESSIONS FROM ONCE-LIVING ORGANISMS IN ROCK	IMPRESSIONS IN MUD
2. HOW OLD ?	INFER FROM "DATING ROCKS"	LESS THAN 4 HOURS, SINCE LAST RAINFALL
3. HYPOTHESIS:	TRACKS WERE MADE BY <i>ARCHAEHIPPIUS</i>	TRACKS WERE MADE BY A RACCOON
5. TEST HYPOTHESIS:	MATCH FOSSIL IMPRINT TO RECONSTRUCTED BONES	FOLLOW TRACKS TO LOCATE LIVE RACCOON
6. VERIFICATION:	IMPOSSIBLE	TRACKS LEAD TO RACCOON
	HISTORICAL BIOLOGY	INDUCTIVE BIOLOGY
1. GOAL	UNDERSTAND HISTORIC OR PREHISTORIC PHENOMENA	UNDERSTAND RECURRING PHENOMENA
2. HYPOTHESES	OFTEN UNFALSIFIABLE	FALSIFIABLE
3. INFLUENCE OF SPECULATIONS WORLDVIEWS	VERY SUSCEPTIBLE	LIKEWISE, BUT HYPOTHESES TESTABLE

HISTORICAL BACKGROUND

- MOSES (1440 BC) > GENESIS ACCOUNT: “Kinds”, Adam’s *three-fold responsibility*
- ARISTOTLE
350 BC > LADDER OF LIFE
> INANIMATE --> PLANT --> INVERTEBRATE --> VERT. --> MAN
- RENAISSANCE
1400-1700 > "GREAT CHAIN OF BEING"
> "FIXED LINKS" [Everything has its fixed place in the “order.”]
- LINNAEUS
1750 > CLASSIFICATION OF SPECIES
> "FIXITY OF KINDS" -- BUT "HYBRIDIZATION"
- LAMARCK
1800 > SPECIES CHANGE OVER TIME e.g. VESTIGIAL ORGANS
> FIG. 15-2
- DARWIN
1859 > *ORIGIN OF SPECIES*
> "NATURAL SELECTION CAN BRING PERFECTION"
- MENDEL
1866 > PRINCIPLES OF HEREDITY
- NEO-DARWINISM
1900'S > REVISION IN LIGHT OF GENETICS
> EVOLUTION = CHANGE IN ALLELE FREQUENCIES
IN GENE POOL

WORLDVIEWS, or IT MATTERS WHERE WE BEGIN !

WORLDVIEW:	THEISTIC	ATHEISTIC
<p>Resultant PHILOSOPHY:</p> <p>Reality -></p> <p>Controlled by:</p>	<p>SUPERNATURALISM</p> <p>Natural World is a <i>Reality</i></p> <p>Supernatural Agent Whose Laws are Discoverable</p>	<p>NATURALISM</p> <p>...is the <u>only</u> <i>Reality</i></p> <p>Controlled by Natural Laws Operating by Time/Chance</p>
<p>Origins Hypotheses:</p>	<p>1) Intelligent Design/Purpose</p> <p>2) Catastrophism</p>	<p>1) Time/Chance Evolution</p> <p>2) Uniformitarianism</p>
<p>APPLICATION:</p>	<p style="text-align: center;">↓</p> <p>INTERPRETATION OF</p>	<p style="text-align: center;">↓</p> <p>NATURAL PHENOMENA</p>