Chapter 18

THE LAWS OF NATURE

The laws of nature oppose the evolutionary theory

This chapter is based on pp. 805-829 of Other Evidence (Volume Three of our three-volume Evolution Disproved Series). Not included in this book chapter are at least 37 statements in the chapter of the larger book, plus 87 more in its appendix. You will find them, plus much more, on our website: evolution-facts.org.

According to evolutionary theory, all matter came into existence by itself. At a later time on our planet, living creatures quite literally "made themselves." Such views sound like Greek myths. But if these theories are true,—where did the laws of nature come from? Too often these are overlooked. There are a variety of very complicated natural laws. How did these come into existence? **People assume that they too just sprung up spontaneously. But they are assuming too much.**

INTRODUCTION—This chapter is of such importance that after reading it, someone will say, "Why did you not place it at the beginning of the book?" Someone else might add, "All you need is this chapter—and you can omit the rest!"

The earlier portions of this volume met evolution on its own ground. When given a hearing, common sense combined with scientific facts will always tear the theory of evolution to pieces.

Evolutionary theory is built on two foundational pillars. But there are two laws that crush those pillars to powder. *Let us look at the two evolutionary pillars and the two laws that destroy them:*

(1) **Evolution teaches that matter is not conservative but self-originating**; it can arise from nothing and increase. ***The First Law of Thermodynamics annihilates this error.***

(2) **Evolution teaches that matter and living things keep becoming more complex** and continually evolve toward greater perfection. Just as inorganic matter becomes successively more ordered and perfect (via the Big Bang and stellar evolution), so living creatures are always evolving into higher planes of existence (via species evolution). ***The Second Law of Thermodynamics devastates this theory.***

1 - LOOKING AT LAW

DESIGNS AND LAWS—In our civilizations, we find that it is highly intelligent people who design the machinery and make the laws that govern the nation. Because of our human limitations, much time needs to be spent in improving man-made mechanical designs and rewriting human laws.

But in nature we find the perfection in design and laws which humans cannot achieve. Every bird and animal is perfectly designed; and fossil evidence indicates that each one has had the same design all the way back to its first appearance in the fossil record. The laws of nature are perfect also. If we need evidence about the perfection of natural laws, now and in the past, all we need do is gaze upon the planets, moons, stars, and galactic systems. The perfect balancing of their rotations on their axes and revolutions (orbits) around still larger spheres or star complexes is astounding. The laws are operating with total precision. Any aberration of those laws in the past would have brought the suns and stars and systems—and our own world—crashing in upon each other. **The evidence is clear that, from the most distant past, the laws of nature have operated accurately.**

NO SELF-MADE LAWS—Evolutionists work on three basic assumptions: (1) laws automatically sprang into existence out of designless confusion, (2) matter originated from nothing, and (3) living things came from non-living things.

But **just as matter and life did not make itself, so law did not make itself either.**

"The naive view implies that the universe suddenly came into existence and found a complete system of physical laws waiting to be obeyed. Actually it seems more natural to suppose that the physical universe and the laws of physics are inter-dependent."—**W.H. McCrea, "Cosmology after Half a Century," Science, Vol. 160, June 1968, p. 1297.*

"Even if one day we find our knowledge of the basic laws concerning inanimate nature to be complete, this would not mean that we had "explained" all of inanimate nature. All we should have done is to show that all the complex phenomena of our experience are derived from some simple basic laws. But how to explain the laws themselves?"—**R.E. Peieris, The Laws of Nature (1956), p. 240.*

THE LAW OF MANUFACTURE—A law is a principle that is never, never violated. *Let us for a moment postulate a couple candidates for new laws:*

A cardinal rule of existence would be this. We shall call it **the *Law of Manufacture***. We could word the law something like this: **"The maker of a product has to be more complicated than the product."** The equipment needed to make a bolt and nut had to be far more complex than the bolt and nut! Let us call that the *First Law of Products.*

Here is another "law" to consider. We will call this one the ***Law of Originator***, and describe it in this way: **"The designer of a product has to be more intelligent than the product."** Let us return to the bolt and nut for our example of what we shall call our *Second Law of Products.*

Neither the bolt nor the nut made themselves. But more: The person who made this bolt and nut had to be far more intelligent than the bolt and nut, and far more intelligent than the production methods used to make it.

MANY LAWS—There are many, many laws operating in the natural world. It is intriguing that **there are also moral laws operating among human beings: laws of honesty, purity, etc. We get into trouble when we violate moral law—the Ten Commandments,—just as when we violate natural laws**, such as the Law of Gravity.

"Facts are the air of science. Without them a man of science can

never rise. Without them your theories are vain surmises. But while you are studying, observing, experimenting, do not remain content with the surface of things. Do not become a mere recorder of facts, but try to penetrate the mystery of their origin. Seek obstinately for the laws that govern them!"—*Ivan Pavlov, quoted in *Isaac Asimov's Book of Science and Nature Quotations, p. 99.*

Let us now consider the two special laws that we mentioned at the beginning of this chapter: ***The two laws of thermodynamics.*** **As with other laws, these two laws operate throughout the universe.**

The *first* is a law of conservation that works to preserve the basic categories of nature (matter, energy, etc.). The *second* is a law of decay that works to reduce the *useful* amount of matter, energy, etc., as the original organization of the cosmos tends to run down.

Let us now closely examine each of these laws:

2 - THE TWO LAWS OF THERMODYNAMICS

THE FIRST LAW OF THERMODYNAMICS—*The First Law of Thermodynamics* (hereinafter called *"the First Law")* is also called **the *Law of Conservation of Mass/Energy*.**

It says this: **"Energy cannot by itself be created nor destroyed. Energy may be changed from one form into another, but the total amount remains unchanged."**

Einstein showed that matter is but another form of energy, as expressed in the equation: $E = MC^2$ (E = Energy, m = mass, c^2 = velocity of light squared). A nuclear explosion (such as we find in an "atomic" bomb) suddenly changes a small amount of matter into energy. But, according to the First Law, **the sum total of energy (or its sister, matter) will always remain the same.** None of it will disappear by itself. (**The corollary is that no new matter or energy will make itself**.)

"The Law of Energy Conservation—'Energy can be converted from one form into another, but can neither be created nor destroyed,'—is the most important and best-proved law in science. This law is considered the most powerful and most fundamental generalization about the universe that scientists have ever been able to make."—**Isaac Asimov, "In the Game of Energy and Thermodynamics You Can't Even Break Even," Journal of Smithsonian Institute, June 1970, p. 6.*

Since matter/energy cannot make itself or eliminate itself, only an outside agency or power can make or destroy it.

"The First Law of Thermodynamics states that the total amount of energy in the universe, or in any isolated part of it, remains constant. It further states that although energy (or its mass equivalent) can change form, it is not now being created or destroyed. Countless experiments have verified this. A corollary of the First Law is that natural processes cannot create energy. Consequently, energy must have been created in the past by some agency or power outside of and independent of the natural universe. Furthermore, if natural processes cannot produce the relatively simple inorganic portion of the universe, then it is even less likely that natural processes can explain the much more complex organic (or living) portion of the universe."—*Walter T. Brown, In the Beginning (1989), p. 12.*

And now we come to the Second Law of Thermodynamics; and here we find an astounding proof that the entire evolutionary theory is totally incorrect:

THE SECOND LAW OF THERMODYNAMICS—*(*#1/16 Universality of the Second Law*)* **The *Second Law of Thermodynamics*** is also called the ***Law of Increasing Entropy*** **(or disorder).**

The First Law of Thermodynamics speaks of the quantitative conservation of energy. **The Second Law of Thermodynamics** (hereinafter called "the *Second Law"*) **refers to the qualitative degeneration of energy. That energy decay is also called *"entropy."* Entropy increases as matter or energy becomes less useable.**

The Second Law may be expressed in several ways.

"It is a very broad and very general law, and because its applications are so varied it may be stated in a great variety of ways."—**E.S. Greene, Principles of Physics (1962), p. 310.*

Here are the three most important applications of this law:

"1. *Classical Thermodynamics:* The energy available for useful work in a functioning system tends to decrease, even though the total energy remains constant.

"2. S*tatistical Thermodynamics:* The organized complexity (order) of a structured system tends to become disorganized and random (disorder).

"3. *Informational Thermodynamics:* The information conveyed by a communicating system tends to become distorted and incom-

plete."—*Henry Morris and Gary Parker, What is Creation Science? (1987) p. 199.*

Basically, **the Second Law states that all systems will tend toward the most mathematically probable state, and eventually become totally random and disorganized. To put it in the vernacular, apart from a Higher Power, everything left to itself will ultimately go to pieces.**

All science bows low before the Second Law. Genuine scientists do also. The exception would be (1) the evolutionists who, with no hesitation, ignore not only the First and Second Law, but also other principles and laws (such as those which govern matter, life, the DNA species wall, mutations, etc.), and (2) a number of scientists who did not receive an adequate education in basic laws in their university training, and therefore are favorable to deception by Darwinian errors. Such men have no clear conception of the fundamental laws governing nature. **Evolution is an outlaw theory; and those who bow to it refuse to acknowledge the proper authority of law.**

"To their credit, there are a few evolutionists (though apparently a few) who recognize the critical nature of this problem [of the Second Law] and who are trying to solve it."—**Ilya Prigogine, Gregoire Nicolis & Agnes Babloyants, "Thermodynamics of Evolution," Physics Today, Vol. 25, November 1972, pp. 23-28 [professor in the Faculty of Sciences at the University Libre de Belgique and one of the world's leading thermodynamicists].*

Regardless of the excuses that evolutionists may offer, the Second Law rises above the foibles and errors of mankind, and will not be overthrown.

"The Entropy Principle will preside as the ruling paradigm over the next period of history. Albert Einstein said that it is the premier law of all science; Sir Arthur Eddington referred to it as the supreme metaphysical law of the entire universe."—**Jeremy Rifkin, Entropy: A New World View (1980), p. 6.*

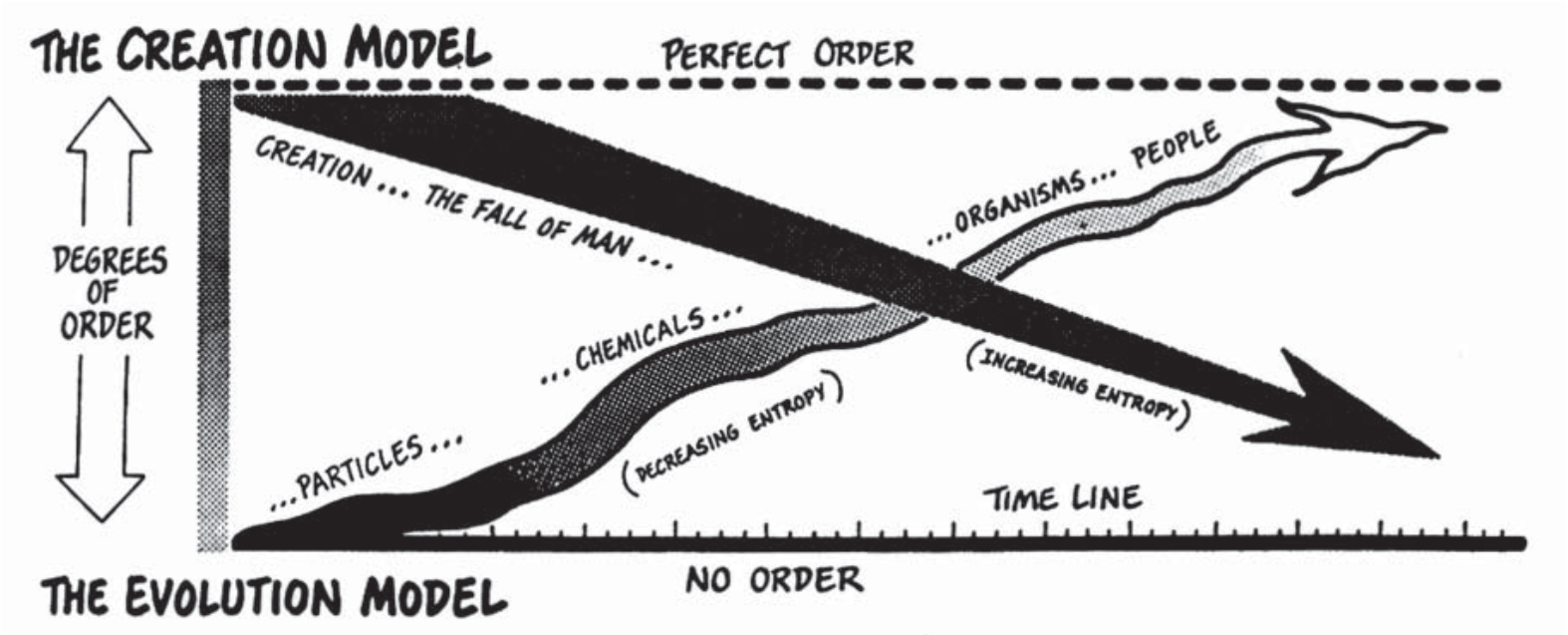
Only a power outside of all energy and matter could overrule the Second Law. *Blum of Princeton University has written:

"The second law of thermodynamics predicts that a system *left to itself* will, in the course of time, go toward greater disorder."—**Harold Blum, Time's Arrow and Evolution (1968), p. 201 [emphasis ours].*

THE ENTROPY PROBLEM

The Second Law of Thermdynamics requires that all things gradually and ultimately decay, not improve. The arrow is downward, not upward. Yet evolutionary theory requires an upward arrow, which is scientifically impossible.

This one principle alone dooms all evolutionary theories, whether they be stellar, botanical, or biological,—to oblivion.



THE INEVITABLE ARROW—*(*#2/16 Entropy Is Always Increasing**)* It was *Sir Arthur Eddington, a leading astronomer who coined the term *"Time's Arrow"* to succinctly describe this second law. He said ***the arrow points downward, never upward*. Although evolution requires an upward arrow; the Second Law says, "No, an upward arrow is not permissible."**

> "There is a general natural tendency of all observed systems to go from order to disorder, reflecting dissipation of energy available for future transformation—the law of increasing entropy."—**R.R. Kindsay, "Physics: to What Extent Is it Deterministic?" in American Scientist 56 (1968), p. 100.*

> "How difficult it is to maintain houses, and machinery, and our own bodies in perfect working order; how easy to let them deteriorate. In fact, all we have to do is nothing, and everything deteriorates, collapses, breaks down, wears out, all by itself and that is what the Second Law is all about."—**Isaac Asimov, Smithsonian Institute Journal, June 1970.*

EVOLUTION SAYS NO—*(*#3/12 Evolution Claims to be above the Second Law**)* **Evolution teaches an upward arrow all the way from nothingness to the present and on into a glorious future when mankind will eventually evolve into godlike creatures** with fantastic minds, engaged in intergalactic space trips while founding intergalactic space empires.

You may recall a statement by a confirmed evolutionist, quoted earlier in this book, that the marvelous powers of evolution brought man out of dust, through microbes and monkeys to his present state and that, hereafter, we may next change into clouds. Here is that quotation again:

> "In a billion years [from now], it seems, intelligent life might be as different from humans as humans are from insects . . To change from a human being to a cloud may seem a big order, but it's the kind of change you'd expect over billions of years."—**Freemen Dyson, 1988 statement, quoted in Asimov's Book of Science and Nature Quotations, p. 93 [American mathematician].*

Although evolution is contrary to many physical laws, including the First and Second Laws of Thermodynamics, *throughout the remainder of this chapter we will primarily concern ourselves with the Second Law.*

Evolutionary theory stands in obvious defiance of the Second Law, but evolutionists declare that this is no problem; for

they declare their theory to be above law!

3 - EVOLUTIONARY EXCUSES

"OPEN SYSTEMS" ARGUMENT—*(*#5/5 The Second Law and Crystallization*)* **The evolutionist argument goes this way:** Energy from the sun flows to our world and makes it an open system. **As long as the sun sends this energy, it will fuel evolutionary development here.** In contrast, a closed system is one that neither gains nor gives up energy to its surroundings. **Therefore, sunshine negates the Second Law,—in spite of what Einstein and all the other physicists say!**

It is obvious that their neat denial denies too much. **Their argument effectively nullifies Second Law everywhere in the universe**, except in the cold of outer space and on planets distant from stars. Evolution is apparently progressing even on our moon, for it is receiving as much energy from the sun as we are! In addition, there ought to be a lot of evolution going on inside stars, for they have the best "open systems" of all!

ERROR IN "OPEN SYSTEM"—*(*#4/12 The Second Law and Open Systems*)* Here is the answer to this naive argument: **An influx of heat energy into a so-called "open system"** (in this case, solar heat entering our planet) **would not decrease entropy. The entropy continues apace, just as the scientists said it would.**

Reputable scientists discovered the working of the Second Law; yet sunshine was bathing the earth when they found it! **If sunlight abrogated the Second Law, scientists could not have discovered the law.**

But there is more: Heat energy flowing into our world does not decrease entropy—it increases it! The greater the outside heat energy that enters the system, the more will its entropy and disorder increase. **Energy by itself increases entropy**; therefore random energy or heat will increase entropy.

Opening a system to random external heat energy will increase the entropy in that system even more rapidly than if it remained closed. **Oxidation is increased, chemical actions speed up**, and other patterns of degeneration quicken.

TEMPORARILY SLOWING THE SECOND LAW—Is there no

way to temporarily curtail the effects of the Second Law? Yes, there is:

Energy that is brought *into* a system from *outside,* *AND* which is *intelligently controlled and directed*, can temporarily interfere with the operation of the Second Law. It can for a time apparently stop entropy. But **deliberate, ongoing effort has to be expended to accomplish this. To say it another way: The effects of the tearing down process of entropy have to be constantly repaired.** Consider the following:

There are many systems, especially artificial ones (buildings, machinery) and living systems (plants, animals) which appear to run counter to the Second Law. We walk down the street and stand in front of a house: A higher intelligence (intelligence higher than that which the building has) carefully constructed the building, keeps it heated, air conditioned, dehumidified, and in good repair. In spite of this, the building gradually ages. **Eventually the higher intelligence steps back and stops repairing, replacing, and repainting—and the building decays much more rapidly and finally falls to pieces.**

Ordered systems, such as a kept-up building or maintaining a human body, are working within the Second Law, not outside of it.

> "Ordinarily the second law is stated for isolated systems, but the second law applies equally well to open systems."—**John Ross, Chemical Engineering News, July 7, 1980, p. 4 [Harvard University researcher].*

Consider a human body: We have to constantly feed, bathe, oxygenate, and maintain it, or it would immediately die. Yet, all the while, it keeps weakening. Eventually it dies anyway. But, before it did, the body produced offspring. But later the offspring die also.

*Harold F. Blum, a biochemist at Princeton, wrote an entire book on the Second Law. He maintains that this law does indeed apply to our world and to everything in it—including living creatures.

> "No matter how carefully we examine the energetics of *living systems*, we find no evidence of defeat of thermodynamic principles [the First and Second Law], but we do encounter a degree of complexity not witnessed in the non-living world."—**Harold Blum,*

"I'm trying to invent some new laws. All the old ones disagree with evolutionary theory."

"How could the Second Law apply to everything, as Kelvin and Einstein said,—when we evolutionists have decided that everything in our world is an 'open system' and not subject to the Second Law at all?"

"Let's get rid of the Second Law—and all the other laws. Or pretty soon we'll have to begin keeping the moral law: the Ten Commandments!"

"Tell the publishers to stop mentioning the Second Law in the textbooks they publish for the schools. It keeps embarrassing us."

"I'm tring to find something that doesn't corrode, break down, rot, or fall to pieces. Then I can say the Second Law has been disproved."

"It's just a meeting of evolutionists."

Time's Arrow and Evolution (1962), p. 14 [emphasis ours].

INFORMATION VS. THE LAW—Theoreticians have decided that information is a partial disproof of the Second Law. The idea goes somewhat like this: **If you were to write down all the sunspot data about a star for ages and ages, the star might be decaying, but your data would be increasing!** This fact is thought to mean something, but it really proves nothing. It is just armchair theorizing. Nevertheless, it is a matter of deep concern to some.

Here is the answer to this "information theory" puzzle in regard to entropy: **The men gathering the** sunspot **data keep dying; and, if others do not take their place, the data is eventually lost or rots away. The gathering of data is much like continually repainting a house.** As long as we keep working at it, the inevitable decay of entropy is masked over. But **set the papers aside for a time; and the information becomes out-of-date and the paper it is on crumbles to dust.**

QUANTITY VS. CONVERSION—Of all the arguments defending evolutionary theory against the Second Law, the "open system" argument is the most common. But **the problem is that in using the "open system" defense, the evolutionists confuse *quantity* of energy (of which there certainly is enormous amounts sent us from the sun) with *conversion* of energy.**

NO EVOLUTION EVEN IN AN OPEN SYSTEM—*(*#5/5 The Second Law and Crystallization*)* But even if "open systems" negated the Second Law, there could still be no evolution. **The problem is how would the sun's energy begin and sustain evolutionary development? How can sunlight originate life? How can it produce a living cell or a living species? How could it change one species into another one?**

4 - SOLIDITY OF THE SECOND LAW

ACKNOWLEDGED BY LEADING SCIENTISTS—*(*#6/12 The Second Law Destroys Evolutionary Theory*)* Dedicated evolutionists declare that evolution stands above the Second Law of Thermodynamics and is not subject to it. In contrast, **many of the world's leading scientists maintain that everything is subject**

to the Second Law. *Sir Arthur Eddington (1882-1944) was a leading British astronomer of the first half of the 20th century. He said this:

"If your theory is found to be against the second law of thermodynamics, I can give you no hope; there is nothing for it [your theory] but to collapse in deepest humiliation."—**Arthur S. Eddington, The Nature of the Physical World (1930), p. 74.*

***Albert Einstein** (1879-1955) **is generally considered to have had one of the outstanding scientific minds of the 20th century. He made this highly significant statement regarding "classical thermodynamics," which is the First and Second Laws of Thermodynamics:**

"[A law] is more impressive the greater is the simplicity of its premises, the more different are the kinds of things it relates, and the more extended its range of applicability. Therefore, the deep impression which classical thermodynamics made on me. It is the only physical theory of universal content which I am convinced, that within the framework of applicability of its basic concepts will never be overthrown."—**Albert Einstein, quoted in *M.J. Klein, "Thermodynamics in Einstein's Universe," in Science, 157 (1967), p. 509; also in *Isaac Asimov's Book of Science and Nature Quotations, p. 76.*

Einstein said that the First and Second Laws were so inviolate because they applied to so many things. By the same rule, **we could speak of another law, the *Law of Creatorship*, and declare that it is even more inviolate.** Everything in the skies above and the earth beneath witnesses to the fact that God made it all!

The Second Law has never failed to be substantiated:

"The second law of thermodynamics not only is a principle of wide reaching scope and application, but also is one which has never failed to satisfy the severest test of experiment. The numerous quantitative relations derived from this law have been subjected to more and more accurate experimental investigation without the detection of the slightest inaccuracy."—**G.N. Lewis and *M. Randall, Thermodynamics (1961), p. 87.*

"There is thus no justification for the view, often glibly repeated, that the Second Law of Thermodynamics is only statistically true, in the sense that microscopic violations repeatedly occur, but never violations of any serious magnitude. On the contrary, no evidence has ever been presented that the Second Law breaks down under any circumstances."—**A.B. Pippard, Elements of Chemical Ther-*

modynamics for Advanced Students of Physics (1966), p. 100.

THE SECOND LAW POINTS TO THE CREATOR—*(*#7/6 The Second Law Requires a Beginning / #8/7 The Laws and their Maker*)* **According to the First Law, matter can only be produced by an outside agency or power. According to the Second Law, its decay can only be postponed by activity of an outside agency or power.**

"The second law of thermodynamics predicts that a system *left to itself* will, in the course of time, go toward greater disorder."—**Harold Blum, Time's Arrow and Evolution (1968), pp. 201 [emphasis ours].*

It is a striking fact that the Second Law of Thermodynamics points mankind to its Creator. The greatest scientists acknowledge the universality of this law. But **if everything, everywhere is running down, Who got it started originally? If everything is moving toward an end, then it had to have a beginning!**

The Second Law testifies to the fact that there was a beginning to everything, and therefore a Beginner.

"The greatest puzzle is where all the order in the universe came from originally. How did the cosmos get wound up, if the second law of thermodynamics predicts asymmetric unwinding towards disorder?"—**Paul C.W. Davies (1979).*

All the stars and all of nature testify that there is a Creator. The perfect designs of nature and the precision of natural law—point us to the One who prepared all these things. Look at a pansy or a rose; pet a rabbit; watch a hummingbird in action. Consider the awesome wonders of island universes with their complex inter-orbiting suns. **There is One who stands above and beyond all of this. One who made it all, who is thoughtful of the needs of the universe and cares for His own.**

"It seems to be one of the fundamental features of nature that fundamental physical laws are described in terms of a mathematical theory of great beauty and power, needing quite a high standard of mathematics for one to understand it . . One could perhaps describe the situation by saying that God is a mathematician of a very high order, and He used very advanced mathematics in constructing the universe."—**P.A.M. Dirac, "The Evolution of the Physicist's Picture of Nature," in Scientific American, May 1963, p. 53.*

"The authors see the second law of thermodynamics as man's description of the prior and continuing work of a Creator, who also

holds the answer to the future destiny of man and the universe."—*Sonntag and Van Wylen, Fundamentals of Classical Thermodynamics, 2nd Ed., Vol. 1 (1973), p. 248.*

Very important: In order to round out your understanding of this topic, you will want to read the section, ***"Six Strange Teachings of Evolution"* in chapter 10, *Mutations.* It presents several aspects of evolutionary theory which run remarkably opposite to the laws of thermodynamics**, and also to common sense: (1) Evolution operates only upward, never downward; (2) evolution operates irreversibly; (3) evolution operates from smaller to bigger; (4) evolution only operates from less to more complex; (5) evolution only operates from less to more perfect; (6) evolution is not repeatable.

—Evolution is said to be "totally random." Yet the evolutionists have fitted it into a mold of totally precisioned, carefully ordered and directed, and having intelligent complexity. Why do they fit their theoretical "evolution" into such a mold? Because that is what is in all of nature—which evolution is supposed to have produced!

EVOLUTION COULD NOT DO THIS

Porpoises (bottle-nosed dolphins) never hurt humans, but crush vicious barracudas and kill deadly sharks. It is sonar (underwater radar) that enables them to successfully plan their attacks. With their high-pitched squeaks, they can identify the type of fish, and measure its distance and size. Porpoises have a special region in their head which contains a specialized type of fat. Scientists call it their "melon," for that is its shape. Because the speed of sound in the fatty melon is different than that of the rest of the body, this melon is used as a "sound lens" to collect sonar signals and interpret them to the brain. It focuses sound, just as a glass lens focuses light. The focused sound produces a small "sound picture" in the porpoise's mind—showing it the unseen things ahead in the dark, murky water. It has been discovered that the composition of this fatty lens can be altered by the porpoise in order to change the sound speed through the melon—and thus change the focus of the lens to accord with variational factors in the surrounding water! There is also evidence that the composition of fat varies in different parts of the melon. This technique of doublet lens (two glass lenses glued together) is used in optical lenses in order to overcome chromatic aberrations and produce high-quality light lenses. The porpoise appears to be using a similar principle for its sound lens system!

CHAPTER 18 - STUDY AND REVIEW QUESTIONS
THE LAWS OF NATURE

GRADES 5 TO 12 ON A GRADUATED SCALE

1 - If everything is under law, where did those laws come from? Could they have made themselves? Do human laws make themselves?

2 - Explain the "first and second laws of products."

3 - Are even the smallest and largest things under laws? Why?

4 - There are many types of physical laws. There are also moral laws and different health laws. Think about this and list about 12 different natural laws.

5 - Define and explain the First Law of Thermodynamics.

6 - In what way does evolution agree or disagree with the First Law.

7 - Define and explain the Second Law of Thermodynamics.

8 - In what way does evolution agree or disagree with the Second Law.

9 - Why do scientists speak of an "arrow" in describing the Second Law?

10 - Give three examples from practical life of the Second Law in operation.

11 - Discuss the flaws in the "open systems" argument.

12 - Some say that the Second Law only applies to "closed systems," and that our solar system and everything in it is an "open system," and therefore not subject to the Second Law. Explain why that idea is wrong. Everything in the universe is either a closed system (both laws apply to everything) or everything in the universe is an open system (both laws apply to nothing).

13 - Why do evolutionists claim that evolutionary theory is "above all law"?

14 - Write a brief paragraph or two, describing what scientists say about the importance and universality of the Second Law.