

Lesson 10

“The Uniformity of Nature”

Based on Lecture 5 of

Greg L. Bahnsen’s *Basic Training for Defending the Faith*

**“While the earth remains, seedtime and harvest, and cold and heat,
and summer and winter, and day and night shall not cease.”**

(Genesis 8:22)

As we continue studying Dr. Bahnsen’s final lecture, we must recall that he is exposing serious problems in four major areas of worldview concern: morality, the uniformity of nature, universals and laws, and human dignity. The complications in these areas reduce the unbelieving worldview to irrational absurdity. Hence, it is important for you to understand these matters so that you can internally critique the non-Christian’s worldview, which is one track in the dual-track apologetic of Scripture (see Lesson 8). Remember that the argument for the Christian faith is: “the impossibility of the contrary.” This impossibility must be demonstrated to the unbeliever.

In our last lesson we focused on the first point of concern that Dr. Bahnsen highlights: the problem of moral absolutes. We showed that the unbelieving system is confounded by internal contradictions and an inability to rationally justify moral standards. In that God created us as social creatures (Gen. 2:18) who live in a world crowded with other people, you absolutely depend on a basic shared morality so that “you will know that your tent is secure, for you will visit your abode and fear no loss” (Job 5:24). Otherwise, we would fear the unpredictable social

world and would be unable to function in it at all (Prov. 1:16; Ps. 55:1–8; 71:4; 140:1–5; Isa. 57:20–21; 59:7–14).

We saw that the Christian worldview establishes a firm foundation for ethics: The character of the absolute, righteous God of Scripture. Your God not only provides the foundation for ethics but reveals the standards to you in Scripture. As always, you must recognize the fundamental idea in all apologetic encounters: You are asking which worldview can resolve the foundational questions. You grant the unbeliever the opportunity to respond to the challenge. Then you present to him the Christian foundations which alone can give meaning to human experience.

In this lesson we move to Dr. Bahnsen’s second consideration: the problem of the uniformity of nature.

I. Central Concerns

The uniformity of nature is a crucial metaphysical issue which provides a world system in which we can practically live out our lives, as well as engage in scientific research. But the non-Christian has a problem explaining the uniformity of nature. Let us see how this is so. Whereas in the previous lesson we dealt with moral issues, in this one we are dealing with the uniformity of nature which involves scientific matters.

Uniformity Defined

As we briefly noted in an earlier lesson, we live in what we call the “universe.” The idea of a *uni*-verse encompasses all created things collectively. The word “universe” is derived from *unus*, the Latin word “one” and *versus* is the Latin “to turn,” meaning “to turn into one,” i.e., from many parts. That we live in a *universe* indicates that we exist in a single, unified, orderly system

which is composed of many diversified parts. These parts function together as a whole, rational, predictable system. We do not live in a “multiverse.” A multiverse would be a dis-unified, totally fragmented, and random assortment of disconnected and unconnectable facts. These unconnectable facts would be meaninglessly scattered about in chaotic disarray and ultimate disorder.

The idea of a universe is necessarily bound up with the scientific principle of the uniformity of nature. The *uniformity* of the *universe* predicts that what happens at any given time in the material world will under sufficiently similar conditions occur again. That is, the same material causes under the same material conditions will produce the same material results. The uniformity of nature, therefore, entails two important component truths:

(1) Uniformity is valid in all places. The character of the material universe is such that it functions according to a discernible regularity. Natural laws that operate in one place of the universe will uniformly operate throughout the universe so that the same physical cause will in a similar circumstance produce the same physical result elsewhere.

(2) Uniformity is valid at all times. We may expect the future to be like the past in that natural laws do not change over time. Consequently, even changes in the universe caused by such super-massive events as exploding supernovas, colliding galaxies, and so forth, are predictable, being governed by natural law. These laws hold true at all times, from the past into the future.

The Importance of Uniformity

Science is absolutely dependent upon this uniformity because without it we could not infer from past events what we can expect under like circumstances in the future. Physical science

absolutely requires the ability to predict the future action of material entities. Scientific experimentation, theorizing, and prediction would be impossible were nature non-uniform. Scientific investigation is only possible in an orderly, rational coherent, unified system.¹

If reality were haphazard and disorderly we would have no basic scientific laws governing and controlling various phenomena. For instance, medical labs do controlled experiments to create procedures and medications that cure and prevent disease, and so forth. Our space program could not use the laws of gravitation to provide boost assists for interplanetary probes.² All branches of science learn from past experiences so that that knowledge will help control future experience.

And of course our every day lives would be inconceivable without uniformity. We would have no unity at all in either experience or thought. This is true at the most mundane levels of daily life, such as walking, riding a bicycle, or driving a car. These common experiences depend upon uniformity. When you successively put one foot in front of the other and lean forward, you expect to move a certain distance over the surface of the earth, not turn into an octopus or become a mathematical formula.

¹As an aside, we should note that properly conceived, the uniformity of nature and the operations of science do not preclude the possibility of miracles by God. The scientific law of uniformity is a *universalistic* principle, not a particularistic one. Miracles, by definition, are *rare* divine, particular interventions in nature that are appropriately called in Scripture “signs” or “wonders” due to their overriding natural law. That is, even though God may occasionally override natural law through miraculous intervention in limited individual cases, these are rare *exceptions* to the overwhelmingly universal operation of natural law. If there were no uniformity, there could be no miracles in that all would be surprisingly wondrous and unpredictable.

² For an intricate, mind-boggling look at the math necessary for guiding the Cassini-Huygens probe through several planetary gravitational boosts in order to reach its destination at Saturn’s moon Titan, see: “Gravitational Orbits: Gravitational Assists from Planets” at <http://www.go.ednet.ns.ca/~larry/orbits/gravasst/gravasst.html>. These complex calculations employ and adapt Johannes Kepler’s (1571–1630) three laws of planetary motion.

Everyone assumes the uniformity of nature, otherwise we could not know that gravity would hold us to the surface of the earth, that inertia would cause us to remain at rest until a force is applied, that the sun would rise tomorrow, that ingested food would energize our bodies, and so forth. The laws of nature are deemed by scientists to be true (they are never contradicted), universal (they apply throughout the universe), absolute (nothing alters them), and simple (they can be expressed as mathematical formulas).

If we lived in a multiverse each and every single fact would necessarily stand alone, utterly disconnected from other facts, not forming a system as a whole. Consequently, nothing could be organized and related in a mind because no fact would be relateable to any other fact. Thus, science, logic, and experience necessarily require uniformity as a principle of the natural world.

The problem of uniformity

Now the problem that arises for the unbeliever is in *accounting* for the uniformity of nature. Since the unbeliever is so enamored with science and the scientific method, this is a good place to demonstrate his worldview crisis. You must present your standard apologetic challenge to the unbeliever: “Which worldview may reasonably expect that causal connections function uniformly throughout the universe or that the future will be like the past?” We are asking, in other words, which worldview makes human experience intelligible and science possible? All sane people assume uniformity, but only the Christian worldview can *account for* them.

Unbelievers claim: “We only know things based on observation and experience. We only know things that are results of sense experience in the material world.” But the problem arises: We have no experience of the future, for it has yet to occur. Therefore, on this experience-based

scientific method, how can we predict that the future will be like the past so that we may expect scientific experiments to be valid?

The unbeliever will attempt to respond: “We know the future will be like the past because our past experience of the oncoming future has always been thus.” But this statement still only tells us about the past, not the approaching future we now must anticipate.

Furthermore, you can’t expect the future to be like the past apart from a view of the nature of reality that informs you that events are controlled in a uniform way, as by God in the Christian system. Even the renowned atheist philosopher Bertrand Russell (1872–1970) admitted the principle of induction (that we can take past experiences and project them into the future, that we can know the future by gaining knowledge of the past) has no foundation in observation, in sense experience. Therefore, it has no “scientific” foundation. Yet all formal science and all rational human experience assumes uniformity. Russell’s exact statement is as follows:

“It has been argued that we have reason to know that the future will resemble the past, because what was the future has constantly become the past, and has always been found to resemble the past, so that we really have experience of the future, namely of times which were formerly future, which we may call past futures. But such an argument really begs the very question at issue. We have experience of past futures, but not of future futures, and the question is: Will future futures resemble past futures? This question is not to be answered by an argument, which starts from past futures alone. We have therefore still to seek for some principle which shall enable us to know that the future will follow the same laws as the past.”

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“The general principles of science, such as the belief in the reign of law, and the belief that every event must have a cause, are as completely dependent upon the inductive principle as are the beliefs of daily life. All such general principles are believed because mankind has found innumerable instances of their truth and no instances of their falsehood. But this affords no evidence for their truth in the future, unless the inductive principle is assumed.

“Thus all knowledge which, on a basis of experience tells us something about what is not experienced, is based upon a belief which experience can neither confirm nor confute, yet which, at least in its more concrete applications, appears to be as firmly rooted in us as many of the facts of experience. The existence and justification of such beliefs—for the inductive principle, as we shall see, is not the only example—raises some of the most difficult and most debated problems of philosophy.”³

Ultimately, Russell ends up falling into subjectivism as he recognize he cannot account for the objective world as it is:

“In ontology,⁴ I start by accepting the truth of physics. . . . Philosophers may say: What justification have you for accepting the truth of physics? I reply: merely a common-sense basis. . . . I believe (though without good grounds) in the world of

³Bertrand Russell, *The Problems of Philosophy* (Oxford: Oxford University Press, 1998), ch. 6.

⁴“Ontology” is the branch of metaphysics that deals with the nature of being.

physics as well as in the world of psychology. . . . If we are to hold that we know anything of the external world, we must accept the canons of scientific knowledge. Whether . . . an individual decides to accept or reject these canons, is a purely personal affair, not susceptible to argument.”⁵

Another philosopher of science speaks of the paradox of induction:

“The paradox of induction is the problem that in all scientific reasoning we form conclusions, called laws, that are of a general nature; however, the evidence we have for those laws is based upon particular experiences. For example, we form the conclusion that all rays of light will bend as they pass from air into glass, but we have only ever observed a finite number of instances of this law. On further reflection we see that there is no necessary connection between something happening on one occasion and the same thing happening in like circumstances on another occasion. We are not directly acquainted with the “power” behind events that ensures the uniformity of nature throughout space and time.

“The general law encompasses a potentially infinite number of instances that no amount of observation could possibly affirm. The problem is usually expressed as a problem of inference from past to future, but strictly this is only an instance of the problem; unobserved past events are also subject to the paradox of

⁵Bertrand Russell, *Human Knowledge: Its Scope and Limits* (New York: Clarion Books, Simon and Schuster, 1948), xv–xvi.

induction—we can never be sure that any general law has applied uniformly even in the past. No general law can ever be certain.”⁶

Furthermore, another complication arises for the non-Christian: How do we know assuredly that the universe is in fact uniform? Has man investigated every single aspect of the universe from each one of its smallest atomic particles to the farthest flung galaxies and all that exists in between, so that he can speak authoritatively? After all, as Kilgore Trout amusingly observes: “the universe is a big place, perhaps the biggest.” Does man have totally exhaustive knowledge about every particle of matter, every movement in space, and every moment of time? How does man know uniformity governs the whole world and the entire universe? As “The Paradox of Induction” laments: “We have no way at present of being sure that the universe is uniform. We have only sampled physical nature in our own limited portion of the universe. . . . [W]e are wanting the laws of the universe to be such that we can understand them, but there is no reason offered as to why the universe should be like this.”⁷

In addition, since man claims to have an experience of external things, how do we know our experience is accurate and actually conforms to reality as it is, so that science may function? How do we know that we are not free-floating minds? Or simply one mind? We saw these problems in earlier lessons on metaphysics and alternative worldviews.

Such questions are not commonly asked, but are nevertheless vitally important. This point demonstrates that any and every attempt to prove uniformity in nature necessarily requires *circular reasoning*. To prove uniformity one must assume or presuppose uniformity.

⁶“The Paradox of Induction” *Black’s Academy*, 2003: www.blacks.verioyps.co.uk/html/PXQEPJ11.html

⁷“The Problem of Induction,” 2, 7.

If I set out to argue the uniformity of the universe because I can predict cause-and-effect, am I not presupposing the uniformity and validity of my experience? How can I be sure that my experience of cause-and effect is an accurate reflection of what really happens? Furthermore, am I not presupposing the trustworthy, uniform coherence of my own rationality—a rationality that requires uniformity?

The issue boils down to this: Since man cannot know everything he must *assume* or *presuppose* uniformity and then think and act on this very basic assumption. *Consequently the principle of uniformity is not a scientific law but an act of faith which undergirds scientific law.* Thus, adherence to the principle of uniformity— though absolutely essential to science and the scientific method—is an intrinsically religious commitment.

Here the problem of the unbeliever’s ultimate view of reality collapses into absurdity. He is committed to the notion of chance as explanatory of the universe. For instance, the Big Bang model of the beginning of the Universe “represents the instantaneous suspension of physical laws, the sudden, abrupt flash of lawlessness that allowed something to come out of nothing. It represents a true miracle—transcending physical principles.”⁸ It teaches that

“All matter and energy, as well as time, were created in the Big Bang between 10 and 20 billion years ago. In other words, at some point in the distant past, everything in the Universe was concentrated into a point-like region of space called a singularity. For some reason, and astronomers are unsure why, this

⁸Paul Davies, *The Edge of Infinity* (New York: Simon and Schuster, 1981), 161.

singularity expanded rapidly in an explosion, releasing all the matter-energy and time—this event is what is termed The Big Bang.”⁹

The Big Bang view of the origins of the Universe dominates the scientific community so much that “today, virtually all financial and experimental resources in cosmology are devoted to big bang studies.”¹⁰ Elsewhere we read: “Physicist Gregory Benford is even more enthusiastic: ‘It is as though prodigious, bountiful Nature for billions of years has tossed off variations on its themes like a careless, prolific Picasso. Now Nature finds that one of its casual creations has come back with a piercing, searching vision, and its own pictures to paint.’”¹¹

Nobel Prize winning French molecular biologist Jacques Monod puts it bluntly: “Pure chance, absolutely free but blind, [lies] at the very root of the stupendous edifice of evolution.... The universe was not pregnant with life nor the biosphere with man. Our number came up in the Monte Carlo game.”¹²

Evolutionist K. Rohiniprasad comments in his “The Accident of Human Evolution”: “As the evolutionary biologist Stephen Jay Gould puts it, humans arose as a fortuitous and contingent outcome of thousands of linked events. We should humbly acknowledge the fact that any one of

⁹“What is Cosmology?” at the University of Dublin website (www.csc.tcd.ie/~tass/HTML/Cosmology/cosm.html).

¹⁰“An Open Letter to the Scientific Community,” *New Scientist* (May 22, 2004): www.cosmologystatement.org. We should recognize that the Big Bang model of the Universe is not the only one physicists suggest, though it is the most familiar and most widely accepted. Other theoretical models include Quasi-Steady State Cosmology (F. Hoyle, G. Burbidge, J. V. Narlikar, 2000), Plasma Cosmology (E. J. Lerner, 1991), Meta Model Cosmology (T. Van Flandern, 1999), Variable Mass Cosmology (H. Arp, 1998), Universe Cycle Model (A. Gulko, 1980s), and Aetherometric Model (P. Correa and A. Correa, 2002). They all have the same problem though: Without the God of Scripture creating it, chance must prevail.

¹¹Dinesh D’Souza, “Staying Human: The Danger of Techno-utopia” *National Review*, Jan. 22, 2001.

¹²Jacques Monod, *Chance and Necessity* (New York: Knopf, 1971), 112.

these events could have occurred differently and sent history on an alternative pathway.”¹³

Regarding four evolutionary turns, she goes on to state in the same article: “It is important to realize that the above four incidents were totally unrelated and *random*. Like every other phenomenon or catastrophe that changed the course of events on the earth, *biological evolution trundled along without any pre-ordained plan or purpose.*”

Unfortunately for the non-Christian cosmology, chance involves randomness and unpredictability.¹⁴ As the source of all being, it undercuts the uniformity of all material reality, for a “singularity” (such as predicted of black-holes as well as for the beginning of the whole universe) “is a point where physical laws break down, where matter is infinitely dense.”¹⁵

The unbelieving worldview requires faith in miracles, yet without a reason for those miracles. Life arises from non-life. Intelligence from non-intelligence. Morality from that which is no-moral. These are faith claims for explaining our world and how it came to be. The world becomes like Mark Twain’s (1835–1910) introductory comment in *The Adventures of Huckleberry Finn*: “Persons attempting to find a motive in this narrative will be prosecuted; persons attempting to find a moral in it will be banished; persons attempting to find a plot in it will be shot.”

The uniformity of nature is perfectly compatible, however, with the Christian worldview. The absolute, all-creating, sovereignly-governing God reveals to us in Scripture that we can

¹³K. Rohiniprasad, “The Accident of Human Evolution”: <http://sulekha.com/blogs/blogdisplay.aspx?cid=3899>

¹⁴The problems presented by the notion of a chance-created Universe are such that many philosophers and physicists are beginning to postulate an infinite number of universes, speaking of multi-verses instead of a singular universe. These other worlds are known as parallel universes, bubble universes, baby universes, and such like terms.

¹⁵Byron Spice, Science Editor, Post-Gazette “Pitt team may detect ripples in space-time caused by cataclysms” (October 26, 1998): www.post-gazette.com/healthscience/19981026wave5.asp.

count on regularities in the natural world. The Bible teaches that the sun will continue to measure time for us on the earth (Gen. 1:14–19; Eccl. 1:5; Jer. 33:20), that seasons will come and go uniformly (Gen. 8:22; Ps. 74:17), that planting and harvest cycles may be expected (Jer. 5:24; Mark 4:26–29), and so forth. Because of this God-governed regularity in nature, the scientific enterprise is possible and even fruitful.

II. Exegetical Observations

Three particularly important texts are immensely helpful for understanding the rationality of the world and coherence of our experience: Ephesians 1:11; Colossians 1:16–17; and Hebrews 1:3. These verses account for the uniformity of nature.

We will begin with the Colossians passage as a very pointed text which opens up the biblical foundations for uniformity. In Colossians 1:16 we learn that “all things were created, both in the heavens and on earth, visible and invisible, . . . all things have been created by Him.” The Greek verb form of “created” is the perfect tense, which speaks of a past completed action with a continuing effect. The Lord created the world as it is, and it continues to exist as such.

In this brief statement the word “all” (Gk., *panton*) appears four times, emphasizing the totality of his creative activity. Not only so, but it specifies that things “visible *and* invisible” were created by him. Paul emphatically declares: *all things without exception—material and spiritual—have been created by the Lord*. That is, the Lord is the source of all creation, not only the material elements but their invisible laws. Every aspect of reality derives from the creative power of God, not from the inherent, self-creating powers of chance. After all, he exists “before all things” as their ultimate source.

In addition, Paul makes a fundamental point that all things have been created not only “by Him” but also “*for Him*” (cp. Rom. 11:36; 1 Cor. 8:6). The Universe does not exist on its own and without reference to God, it is not self-contained and self-explanatory. It exists as God’s own personal possession and ultimately for his singular glory. It has meaning, significance, and purpose as a God-created, God-glorifying reality. It cannot be properly understood apart from him—hence our apologetic of “the impossibility of the contrary.”

As we continue to read, we discover that the created order is *maintained* by Jesus: “in Him all things hold together.” The Greek verb *sunistemi* (“hold together”) is derived from *histemi* (“to stand”) and *sun* (“with”), it literally means “to cause to stand together.” In Greek the world is called a *kosmos*, which is the opposite of the Greek word *chaos*: it is a place that is caused to “stand together” in a harmonious whole. “The unity, order, and adaptation evident in all of nature and history can be traced to the Upholder or Sustainer of all.”¹⁶ Indeed, “the order and regularity of natural processes and the human power of reasoning resonates with this rationality. In the modern era Newtonian physics and the scientific investigation of ‘the laws of nature’ were premised on a similar axiom.”¹⁷

In Ephesians 1:11 we see further evidence of the rational purpose lying back of the Universe, for Paul reveals that God “works all things after the counsel of his will.” Rather than chance and impersonalism being ultimate in the Universe, the rational God of Scripture governs and controls all things after his own deliberate counsel (Gk., *boule*, “plan”) arising from his sovereign, willful determination. The Universe does not exist as an accident. Nor does God create it arbitrarily.

¹⁶William Hendrikson, *Colossians and Philemon* (NTC) (Grand Rapids: Baker, 1964), 74.

¹⁷James D. G. Dunn, *The Epistles to the Colossians and to Philemon* (NIGTC) (Grand Rapids: Eerdmans, 1996), 94.

Rather the magnificent Universe results from the deliberate planning of God which embraces “all things.”

The clause in Hebrews supplements both the Colossians and Ephesians statements noting that he “upholds all things by the word of His power” (Heb. 1:3b). The verb “upholds” is *hupostasis* which is a compound of *histemi* (“to stand”) and *hupo* (“under”): “that which stands under.” He upholds the Universe not only by raw “power” (*dunameos* from whence we derive “dynamite”) but by power governed by his “word.” The mention of his “word” not only highlights the effortlessness by which he sustains the Universe (given his absolute power), but speaks of its rationality and coherence.

Since God created the rational, coherent Universe by his sovereign, willful plan, and since he created man in his image to function in that world, we see clear revelatory evidence for the foundation of that which scientists call “the uniformity of nature.”

III. Questions Raised

1. How is the idea of the “universe” bound up with the notion of “uniformity of nature”?
2. Explain the meaning of the uniformity of nature using the two basic elements involved.
3. Why is the uniformity of nature important to human experience and to science?
4. State the apologetic challenge you should present to the unbeliever regarding nature’s uniformity.
5. The unbeliever argues that the scientific method operates on the basis of observation and experience. How does this present a problem for defending his worldview?
6. Respond to the claim that we can know how things will operate in the future because we have seen how they operate in the past.

7. What problem arises in the unbeliever's worldview when he claims he knows the Universe is uniform?
8. List some Bible verses that provide a foundation for our knowledge of the uniformity of nature.
9. How would you show that the Christian system easily accounts for the uniformity of nature?

IV. Practical Applications

1. Go on the Internet or do research in appropriate books to discover the names of some of the great scientists who were Christians who believed that God created the Universe. Choose three of them and read brief biographies on their lives, noting especially their commitment to the Christian faith and how it encouraged their labors.
2. Compose a Bible study on the three verses we highlighted in "Exegetical Considerations" above. Present it to a group of Christian friends or in your Sunday school class. Your careful research, personal preparation, and formal presentation of the material will help secure it in your mind.
3. Go to some of the creation science Internet sites and search for articles on uniformity in nature. Download three of the more helpful ones, read them, and put them in a file for future reference.
4. While at the creation science websites, look over their book offerings. Purchase two books that appear helpful for understanding scientific issues from a biblical perspective. Begin building a personal library of helpful apologetic tools.

V. Recommended Reading

Butler, Michael, “TAG v. TANG”:

www.reformed.org/apologetics/index.html?mainframe=http://www.reformed.org/apologetics/martin/pen896.html

Bumbulis, Michael, “Christianity and the Birth of Science”: www.ldolphin.org/bumbulis

Dwiggins, Jeff, “Science, Logic, Rationality, and the Uniformity of Nature”:

www.forerunner.com/aalarm/X0011_Logic.html

Frame, John, “Science”:

www.reformed.org/apologetics/index.html?mainframe=http://www.reformed.org/apologetics/martin/frame_contra_martin2.html

Joyce, George Hayward, “The Divine Omnipotence”:

www.nd.edu/Departments/Maritain/etext/pnt13.htm

“The Light Has Come: Quotations on the History of Christian Contributions to the Progress of

Civilization”: www.christianciv.com/LightHasCome.htm

Morris, Henry, *Men of Science Men of God: Great Scientists of the Past Who Believed the Bible* (Green Forest, Ariz.: Master, 1988).

“Physics, Cosmology, and the Big Bang”: www.nwcreation.net/cosmology.html

Samples, Kenneth Richard, “The Historic Alliance of Christianity and Science”:

www.reasons.org/resources/apologetics/christianscience.shtml