

Earle Fox, 1001 W Lambert Rd, #232, La Habra, CA 90631
 562-697-5049 efoxch@theroadtoemmaus.org characters 24,920

It from Bit or Bit from It?

or, Common Sense Physics?

F. Earle Fox

1. Introduction: Two Contrary Worldviews

Is information or are material objects more fundamental to the nature of the cosmos? Which originates which?

A bit of science history will help introduce my response to the title question – to show that the cosmos is not impersonal (as the title suggests), and that the very personal Biblical worldview is both logically and empirically rational.

The two worldviews before us can be symbolized by an open vs. closed cosmic Circle.¹ The Biblical cosmos is open because there is communication between us inside the Circle of created existence and uncreated God outside. The secular/pagan cosmos is closed because there is nothing beyond the cosmos with which to communicate – a perfect closed system.

Western science developed in the late middle ages as a floating free-market of ideas, which crystallized into universities (Oxford, Paris, etc.), leading to the rise of science.² For the first time in history, the Greek talent for abstract reasoning was wed to the Hebraic focus on the personal, particular, relational, history, time, and space. Scientists began to shed the disabilities of the Greek worldview which focused on the abstract as the “real”. Christian scholars took the techniques of Greek philosophy out of the Hellenic worldview of abstractions to employ them in the Biblical worldview of particulars. Out of that emerged the empirical sciences.

But Christians began to fear the use of science. What if Biblical faith were proven false by scientists? Christians were on the defensive even though the Bible treats reason with the highest respect.³ Biblical people did not think about *how* to think (epistemology, as pioneered by the Greeks), but they did think.

Science could not have developed apart from an Intelligent Designer. So, until the human race discovered there was a God who could create the universe and laws to govern it, the laws remained hidden in the confusion of paganism. A growing Biblical culture still took centuries before Western science was founded.

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1. The secular and pagan views are in ways quite different, but for our purposes can be taken together. For my description of the two basic worldviews, go to <http://www.theroadtoemmaus.org/RdLb/11Phl/WrldV/00Wvw.htm> Site check June 26, 2013
 2. Rodney Stark comments on the rise of science in *For the Glory of God*, Princeton University Press, 2004, Paperback ISBN 978-0-691-11950-2.
Also *The Victory of Reason*, Random House 2006 Paperback. ISBN 0-8129-7233-3.
 3. For my list of Biblical passages indicating Godly respect for reason, go to <http://www.theroadtoemmaus.org/RdLb/12The/Bbl/Bible&TruthSeeking.htm>. Site check June 26, 2013

But the recipients of science intended by God for the most part bailed out. Thus the rampant secular “Enlightenment” of the 19th century won the culture fray, and over the 20th century, as predicted ca. 1900 by Friedrich Nietzsche, led to carnage greater than any other century, *because*, as Nietzsche (of all people) said, We have killed God.

Exactly.⁴

None realized that waiting in the wings was a Biblical Enlightenment. God intended science to sharpen the two-edged Sword of the Spirit (reason and revelation welded back to back.).⁵ But secular folks, with the ignorant complicity of Biblical folks, successfully divided the two edges of the Sword so as to use science as a club (reason) with which to beat Biblical religion (revelation). It did not occur to anyone that Biblical religion might be not only *a* but *the* reasonable option.

Neither the pagan nor the secular worlds can sustain science as understood in the West because they lack a creator-*ex-nihilo*. As one of the first scientists said, “We are thinking God’s thoughts after Him.”

But conservative Christians often take appeals to science as compromising faith. The result has been disaster for Christians because we had betrayed our God, branding Him (and ourselves) as being unreasonable (which He could hardly appreciate).

Secularists tried to interpret the cosmos without an Intelligent Designer. It cannot be done – as suggested by the present disarray among secular philosophers of science who, after centuries of doing science, still cannot show coherence between possibility, cause, existence, knowledge, reason, and information, a coherence which forms the metaphysical and epistemological basis of science.⁶

Since the acid critiques of David Hume, George Berkeley, and Immanuel Kant vs. Isaac Newton (they critiqued his metaphysical worldview, not his mathematics), no one has surfaced with a durable theory of causality – other than Berkeley and others like-minded. Only something like the Biblical God can make coherent those above six qualities. Our present purpose is to begin a case for this rather bold counter-cultural claim.⁷

2. What are “bits”?

I.e., what is information?

If a million monkeys typed long enough, it is supposed, one might type out marks on the paper duplicating a Shakespearean sonnet. But the monkey’s product would not be information as is Shakespeare’s. Information is the freewill product of an intending mind. The monkey’s sonnet would be only an accident that looked like Shakespeare’s sonnet. If the figures on Mount Rushmore were accidents of evolution (wind, sand-erosion, earthquake, etc.), they would not be

4. As Nietzsche pointed out, without God, *moral* law would collapse, just as *natural* law would. Go to www.hawaii.edu/powerkills for the story by R. J. Rummel on the carnage of the last few centuries, almost all by secular or pagan governments. Site check June 26, 2013

5. See Revelation 1:16.

6. See, unpublished but available online, *Personality, Empiricism, & God. (PEG)* by Earle Fox at <http://www.theroadtoemmaus.org/EM/ShpMI/PEG/00PEG.htm>. The text is virtually finished, and will be published in late 2013 or early 2014. PEG gives my case for the cosmological argument for God with footnotes to Berkeley, Hume, and Kant, especially chapter I, a history of the problem. Chapter II gives the argument for the existence of God, and the rest of the essay discusses various implications of the argument. Site check June 26, 2013

7. *Ibid.*

sculptures of four presidents, they would be accidents that looked like sculptures of four presidents. Sculptures require an intentional sculptor and observer.

Likewise, information requires an intelligent freewill sender and an intelligent freewill recipient. Philosophers who deny freewill reduce themselves to machines which cannot be philosophers. Machines have no meaningful motives. Entities with no freewill are determined by the mechanics of their past which has no relation to a conscious consideration of the possibilities concerning truth or falsehood.

Only with those “considerations” can persons be said to assert truth or falsehood. No assertion can come from a merely mechanical process. A truth-asserter must make a *decision*. If he is not intending to speak truth or falsehood, then there is no sense in which he asserts anything but noise.

In the same sense, a robot or a computer cannot itself produce information, only marks which might look like information. Information is formed with language, a set of *arbitrarily chosen signs* to which a community gives meaning. Monkeys, wind erosion, and earthquakes cannot do that. The signs become information only by the intentions of the person making the computer input.

3. Why are “Its” a Problem in Physics?

We once knew what a physical “thing” was – until the advent of atoms that turned out not to be a-toms.⁸ What once were clearly physical objects seem to be evaporating into a welter of mathematical symbols. Do these symbols represent something like what we once knew as “things”? A group called Common Sense Science is addressing this and other related issues.⁹ We are here likewise asking common sense questions of the philosophy of physics.

These are problems inherited from the now more or less abandoned Newtonian world-machine. But common sense urges us to believe that “its” can have stability, that they can be reliably the same from day to day and so form a base for understanding our world.

What then is the relationship between information and things? How do we know (1) that “its” keep their character over time and space, and (2) that “its” have relationships with other “its”, such that we can infer from one to the other?

Must *scientists* make that awful leap of blind faith (habit) about the epistemological unity of the cosmos? Are there no objective laws governing these species of objects? If not, how can we say that any number of experiments on, e.g., the freezing point of water, tells us about other cases of water freezing?¹⁰

We need, says Kant, an “objective unity of apperception”, something tying together our different perceptions in time/space such that we can discern laws to make inferences between them. The objective unity to which Berkeley points is provided by the intentions of an Intelligent Designer. Different events all have the same cause, with the same set of intentions (laws). God thus rescues us from the blind faith of habit.

That is the sense in which early scientists believed they were thinking God’s thoughts after

8. The Greek ‘a’ means ‘not’, and the Greek ‘tom’ means ‘divisible’.

9. Go to www.commonssensescience.org which purports to rewrite modern science without the contradictions of relativity and quantum mechanics. I think they just might succeed. Go here for CSS scientists: <http://www.commonssensescience.org/scientists.html> Site check June 26, 2013.

10. See below, section 4.

Him. He, the cosmic creator, decided why and how the universe will behave, providing the required unity of apperception. What in the pagan or secular worlds can do that?

4. The Degradation of Cause & Inductive Reasoning

Practitioners of science thought they had gone “beyond” the personal notion of causality, but had in fact sunk beneath it. So, as, for example, Bertrand Russell defined ‘causal law’ in terms echoing the critique made by David Hume, scientific law is not much more than a “habit”.¹¹

...a general principle in virtue of which, given sufficient data about certain regions of space-time, it is possible to infer something about certain other regions of space-time.¹²

What “general principle” might there be? There is no active, *producing* “cause”, only an assumed “law relation” between different states of the universe. From where does the law come that could justify the “inference” from one “certain region of space-time” to another? A habit?

Inductive reasoning, the very foundation of the empirical sciences, is at risk. Not by measuring a dozen (or a million) different events of water freezing can one prove that “water freezes at 32 degrees F.” – unless... there is that unity of apperception, something beyond the events themselves which ties them together.

One might indeed develop a Humean habit, which might say something about the observer, but nothing about the events observed except that they “look alike”. Without the objective unity of apperception, no number of same results tells us anything at all about the next event because the supposed “law” is more about the observer (his habit) than about the series of facts observed. The next freezing of water, the next throw of the dice, is its own event and no more. There is no internal relation between the measured events of water freezing, only an external relation of accidental similarity.

For example, rocks scattered randomly in a field have no internal relationship to each other because they are not part of a larger whole. Rocks piled carefully in a row can be more than the sum of the parts – a wall. They are internal to something larger than themselves alone.

So information supposedly contained in one space-time segment of the universe, unless it was related to others through some aspect of intent, would tell us nothing at all about any other segment of the universe. It might be information but only about itself. We need that “objective unifier of apperception”, tying together our different perceptions in time and space such that we can make inferences between them. Without that unifier, all our perceptions become a kaleidoscope of irrelevance and confusion. Total, instant, and lethal chaos.

Just so, a “bit” of information requires something beyond itself to complete an *ontological*, not merely an epistemological, picture, dealing with the “being” of the world, not just a habitual guess and hope about how it might behave. A true causal principle would provide that ontological foundation. DNA code “bits” present an example.

DNA code, we are told, is *information*, not part of a chemical causal link. It is structured as an alphabet with meaningful “words”. That is an amazing statement. DNA does not “cause” the entity to grow a certain way, like a chemical reaction might. If that is so, and if information is

11. See comments by Hume in Chapter I-C-2 of *Personality, Empiricism, & God*, by Earle Fox at <http://www.theroadtoemmaus.org/EM/ShpMI/PEG/00PEG.htm> Site check June 26, 2013.

12. Bertrand Russell, *Human Knowledge: Its Scope and Limits*, p. 270. Routledge Classics 2009, Paperback ISBN 978-0-415-4744-3

both *from* and *for* entities with minds, then where is the originating “intender” which makes the DNA code information in the first place? and who are the entities with minds for whom DNA code is information, the recipients who, like a telephone caller, can use phonebook information?

For the phone book sitting by the phone, the telephone company assigns meaning to various numbers. The customers are then told that a certain number will dial a certain person.

If the DNA is the phone book, then who wrote and who uses the phone book, such as to construct the phenomenally complex single cell, the flagellum, for example, on certain cells which swim with a complex rotary machine at their tail end, reportedly one of the most efficient motors in the known universe? In what sense was the DNA information to direct the construction of the rotor? The making of the first cell could be called the original industrial revolution.¹³

These were the problems into which secular science catapulted itself, thinking that it had discovered the key to the cosmos – a totally depersonalized causal machine, the causal aspect of which then evaporated into a habit, leaving the cosmos with no causal explanation – just habits describing the observing mind, not describing events in the world. Even the observing mind was only another machine. The much touted objectivity of science has disintegrated into subjectivity, and the subject itself into a machine. The two have swapped places. So what is left of either objectivity or subjectivity?

That is not science, that is *reductio ad absurdum*. We have degraded to a pre-scientific age because we threw out the God whose laws we were discovering, but then discovered (Surprise! Surprise!) that the laws departed with Him. Being objectively real, neither God nor the laws can really depart, of course, except only in our capacity to understand. Claiming to be wise, we became fools. This seems to be true even of most Christians, trying to paste a Christian belief over an underlying secularized worldview – which decimates their effectiveness as Christians.

What was it “the fool hath said in his heart...”?¹⁴

6. Epistemology Subs for Ontology

What are we to make of all this? As suggested above, the problem is the loss of a causal principle.

Immanuel Kant reasoned that the *possible* cosmos and the *existing* cosmos must be identical on the grounds that if there were a difference between the possible and the existing, something would have to be added – which would necessarily be impossible.¹⁵ The thing to be added could not come out merely from the possible because it itself would have to be existing.

But Kant did not realize that there is available another “possibility” than the logical sort, that

13. Videos have been produced which show this huge industrial complexity in the tiny cell. Go to www.discovery.org for various “intelligent design” resources, or to www.illustramedia.com for *Unlocking the Mystery of Life* with a clear explanation of the complexity of the cell, especially of the flagellum rotor. Also a new video on bird flight. Sites check June 26, 2013.

14. Psalms 14:1 and 53:1 KJV

15. See *Personality, Empiricism, & God*, at <http://www.theroadtoemmaus.org/EM/ShpMI/PEG/00PEG.htm> by Earle Fox, Chapter II-C-3, “A Kantian Puzzle”, and rest of Chap. II. Chapter I gives a history of the problem. Site check June 26, 2013.

See *Immanuel Kant, Critique of Pure Reason*, Abridged Edition, Trans. by Norman Kemp Smith, MacMillan & Co. 1952. Pp. 142-3, paragraphs A231, B284

is, “causal” possibility. A given *logical* possibility is also *causally* possible if the cosmos in question contains some entity which itself is not contingently existent but exists in and of itself, and which is capable of bringing entities out of pure possibility into existence. That, of course, is the meaning of God as creator *ex-nihilo*.

Contemporary cosmological discussions tend to discount the theological answer. Yet an adequate cosmological argument for God would solve Kant’s problem, and also resolve the dilemma current in the philosophy of science, the need for an objective cause.

When philosophy of science cannot come up with an adequate ontological answer as to the source of something, an epistemological response tends to be substituted. Hume saw no adequate defense of the notion of cause, and substituted “habit” as the reason people talk about causes – repetitive consistency creates habitual belief. But that gives us an epistemological, not an ontological, answer.

And likewise, DNA, or some other non-producing “causal” agency, must be assumed to explain the development of the single cell. Some aspect of the “knowing” process, an epistemological principle, is used to explain what only an ontological answer can explain.

‘Information’ is defined in dictionaries as something like “knowledge conveyed by some person or process...” What then, in the definition of ‘information’, could tell us that information is a cause?

If, other than personal causality, there has never been offered a principle which can explain the existence of something, it makes no sense to ignore personal causality as a possible answer to the problem.

It appears to this author that there is only one substantial ontological explanation for the existence of things: a personal cause. We humans go about causing new things to happen all the time. If freewill activity is the primary and fundamental causal reality, then all other causal explanations ride on the coattails of freewill cause.¹⁶

Leaving God out of the picture will keep us limping with epistemological, quasi-ontological explanations – leading, as today, to the breakdown of scientific understanding. What kind of secularism can survive without the objective truths of science? The secular claim to hold the scientific high ground was, after all, their primary selling point.

Berkeley warned that Newton’s machine would come to seem self-sufficient and so be a barrier between God and ourselves, closing the Circle, locking us into a depersonalized cosmos. If the inert physical world can explain motion, time, and change as well as stability, then who needs God? Berkeley’s warning proved exactly right, until, thanks to himself, Hume and Kant, the world machine began to disappear as a causal entity. Where to now?

It may be that the Biblical worldview will be the only substantive answer available to return physics to a proper self-understanding. Both the Bible and science demand objective truth. Ideas have consequences. Ideas at the metaphysical level have cosmic consequences.

7. Its, Bits, & Personal Causes

The title assigned for this article truncates the issue somewhat. Neither the “bit” of information nor the physical “it” have been shown capable of producing the other – not, at least,

16. See *Personality, Empiricism, & God*, Chapter V, “Freewill & Causality” by Earle Fox available online at <http://www.theroadtoemmaus.org/EM/ShpMI/PEG/00PEG.htm> Site check June 26, 2013.

by a normal usage of the word ‘information’. Information itself has no causal power. And, except for bumping things around and maybe sticking to them (inertial force), neither does Newtonian physical matter.¹⁷

Phone books, though packed with information, do not make phone calls. Persons do. The only experientially known cause is persons, ourselves. The denial of that leads to all sorts of confusion, including the current mess in philosophy of science. If we *a priori* rule out the only directly *known* cause, why are we dismayed when we can find no causal principle?

We know causality by ourselves doing it. Causality is directly, empirically knowable, learned in very early childhood. If you yell loud enough, mother will come. You learn how to *be* a cause. If I choose, I can raise my arm. Small children are the first metaphysicians. They quickly come to understand metaphysical things such as love, caring, truth, right and wrong, “mom” (who is more to the child than a merely mechanical care giver), and causality.

Newton got us off on the wrong track with his notion of material inertial cause, which was then shown by Berkeley, Hume, and Kant to be inadequate partly just because it was “inert”, that is, it initiated no action.

Berkeley, especially, pointed out that there is no possible evidence for Newton’s world of massy atoms because we can never perceive them, neither to identify them nor to compare them with our actual perceptions. So even if they are there, we can know nothing about whether our perceptions accurately represent them. The only things we can perceive are our perceptions themselves. The alleged “real” atom, chair, horse, etc., remains forever unseen. We *assume* that they cause the perceptions accurately. Berkeley rightly concluded that, being inert and imperceptible, the world-machine was no help in explaining the cosmos.

Hume and Kant had no adequate replacement for Newton’s world-machine, but Berkeley insisted that God Himself was the only possible candidate for being the cause of our perceptual world. God was thus also the guarantor of the objectivity, substantial reliability, and hence the scientific rationality of the world.

8. Berkeleian “Its” - Bundles of Behavior

If, in a Berkeleian cosmos, there are no hard Newtonian objects which our perceptions represent, and which keep on existing when no one is watching them, then what is the meaning of “seeing the moon”? When I close my eyes, what, if anything, is still existing? When I open my eyes, in what sense can it be the *same* moon? Phenomenalism wrestles, not very successfully, with the problem of substantial durability, the existence of a non-phenomenal substance behind the phenomena. But Berkeley’s is a successfully objective, not subjective phenomenalism. Being caused by God, our phenomena are objective.

At least two things must happen for a Berkeleian cosmos to be rational, for continuity to happen, and thus able to be successfully lived in and studied scientifically.

First, the observer must be able to identify an object such as the moon, or a friend, or a river, and then be able to reidentify it. That is, one must be able to identify the Ohio River, leave it, and then be able to return to it and know it to be the same Ohio river. Despite Heraclitus’s dictum that we cannot step into the same river twice, we do it all the time – at least to our satisfaction. It may not be the “same” as in Heraclitus’s definition of ‘same’, but it works for river boat captains. There is a sufficient consistency which works over time.

17. I am assuming, perhaps wrongly, that magnetism and gravity need not be part of the discussion.

“Hume’s habit again!” Psychologically that might be the case, but that is irrelevant. The question we are asking is whether there is sufficient stability to the river to meaningfully say that it is the same entity seen twice. We are asking an ontological, not a psychological, question.

If bare phenomena were all that existed, Heraclitus would be correct. But if we live in a Biblical world such as Berkeley imagined, then behind the river is an omnipotent and omniscient Creator who understands the creatures’ need to live in a dependable cosmos.

So the Creator gives to each perceiving being an internally and mutually consistent picture of the reality he inhabits. Each observer has an x, y, z, t coordinate world in which he identifies himself spatially as at 0, 0, 0. Observationally, he takes that center point with him in a way that he knows himself to be “moving” or “standing still”. Even an infant develops his own map of reality so that he can find his way around. Life is not a nightmare in which reality does not conform to one’s mental map, changing erratically, where one begins to feel a frightening loss of belonging, direction, and meaning. We can usually locate and then relocate things we have seen, tasted, smelled, heard, or held.

Second, we must have communication with other observers to help us verify or correct our observations. There must other persons, beginning with mother, with whom we can have community.

The Creator gives each perceiver the same cosmos to perceive, that is, each perceiver at the same time and place will have perceptions which are discernibly of the same situation. They will be able to communicate about the situation in reasonable fashion even though they cannot both occupy the same exact spatial viewpoint at the same time. We can agree to meet at such and such a place along the Ohio River.

We know what a horse looks like and how it is likely to behave, so we can learn how to ride horses and teach horses how to carry us. Likewise also for almost any other object we routinely meet. But their consistency of being is not based on their representing a separate physical, material horse or chair. Their consistency is based ontologically on God being their cause, and epistemologically on their consistent behavior. Sometimes a horse bucks, sometimes a chair collapses when sat upon. But we know, or can find out, how to explain such erratic behavior.

So one might understand physical objects as “bundles of behavior”. None of us needs wholly unknowable Newtonian objects. Consistency of behavior and interaction is what we need to live with and work with physical objects. Thus we do need a reliable, actively causing Creator behind the object so that we can write accurate, believable laws of nature describing the behavior of such bundles.

In all of these events, God provides the necessary objective unity of apperception, not only with individuals, but for communities.

9. A Biblical Philosophy/Enlightenment?

We are not merely ideas in God’s head. We are granted existence, not independently of God, yet different from God. We are creatures of God with independence of freewill. We are, in that sense, objects before God. Thus we can disagree with God, rebel, question, argue with Him. We can choose to be drawn into a love relationship with Him and each other. And we can do science and philosophize in His rationally constructed world.

Seekers of truth, i.e., scientists, thus should never allow the philosophical world to format the

cosmological discussion so as *apriori* to exclude the possibility of a personal creator. The discussion needs to be reformatted at the metaphysical level, where metaphysical question is no longer the abstract “what is pure being”.

The Biblical world has its own philosophy, which should have emerged openly at least by the time of the rise of science with its union of the Greek tools of thinking with the Hebraic worldview (but for the reasons given in section 1, did not). That is, the presuppositions of the Biblical worldview can be tested both logically and empirically, using those methods developed by the Greeks 500 and 400 BC, and newly applied by Christians in the late Middle Ages to the empirical world.

The new metaphysical question should be – “*What must be true for the phenomenal cosmos of the five senses to have rational meaning?*” Answer: the Biblical doctrine of creation has a rational explanation for existence (the Circle of that-which-is-contingently) – namely, the cosmological argument for God, Him-who-Is-absolutely.¹⁸ The metaphysical discussion is still about “being” and “what is”, but in a very different way – because of substantive persons, not substantive “bits” or “its”.

The Biblical doctrine of creation answers the title question, not as a relation between “bits” of information and “its” of matter, but rather as a relationship of cause and effect between creator and creature, among whom information flows back and forth. The physical world is that through which metaphysical persons “behind” the phenomena communicate.

All existing objects are creations of the Original Cause, Him-Who-Is, Yahweh, the archetypal Person.¹⁹ Information is a creation of persons, not of impersonal “its”. And physics is an occupation of these creatures who study, among other things, certain very small, God-created bundles of behavior.

18. See *Personality, Empiricism, & God*, Chapter II, by Earle Fox, at <http://www.theroadtoemmaus.org/EM/ShpMI/PEG/00PEG.htm> Site check June 26, 2013.

19. See Exodus 3 where God names Himself “I AM”, or “I WILL BE WHO I WILL BE”. In Hebrew, “Yahweh”. And *Personality, Empiricism, & God* at <http://www.theroadtoemmaus.org/EM/ShpMI/PEG/00PEG.htm>, especially Chap. 2-B-1 Site check June 26, 2013