

# Implications of the scientific laws of information—part 2

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In the past there were so-called perpetual motion experts. These were inventors and tinkerers who wanted to build a machine that would run continuously without the supply of energy. The discovery of the law of conservation of energy (a law of nature) brought all efforts to solve this challenge to a halt because a *perpetuum mobile* is an impossible machine. Such a machine will never be built, as the laws of nature make it impossible. Evolution could only occur if the possibility existed that information could arise by itself out of matter. Those who believe that evolution is a plausible concept believe in a “*perpetuum mobile* of information”. If there were laws of nature that preclude a *perpetuum mobile* of this kind, the theory of evolution would be disproved. Such laws of nature actually exist, and I have presented these at many universities throughout of the world. The concept of this theory of information is explained in the first article (part I) in this issue. There I enumerated four scientific laws of information arising from observations in the real world. None of them has been falsified by way of an observable process or experiment. In this article, eight far-reaching conclusions will be drawn.

## Eight comprehensive conclusions

Having firmly established the domain of our definition of information in part 1, and familiarized ourselves with the laws of nature about information derived from experience—known as scientific laws of information (SLI; see figure 1)—we can now zero in on effectively applying them. Hereafter the term “information” will be used when referring to universal information. There are eight very far-reaching conclusions that answer fundamental questions. All scientific thought and practice reaches a limit beyond which science is inherently unable to take us. This situation is no exception. But some of our questions involve matters beyond this limiting boundary and so to successfully transcend it we need a higher source of knowledge. We hold that this higher source of knowledge is the Bible. We will proceed in the following sequential manner:

1. Set out the (briefly formulated) conclusion itself.
2. Establish how we were able to reach this conclusion by applying the laws of nature about information, and
3. Check the result against the Bible.

## 1. God exists; refutation of atheism

*Because it can be established that all forms of life contain a code (DNA, RNA), as well as all of the other levels of information, we are within the domain of our definition of information.*

**We can therefore conclude that:  
There must be an intelligent sender!**  
[Applying SLI-4]

## Basis for this conclusion

Because there has never been a process in the material world, demonstrable through observation or experiment, in which information has arisen by without prior intelligence, then that also must be valid for all the information present in living things. Furthermore, what we do observe about information—namely that it intrinsically depends upon an original act of intelligence to construct it, as defined

**SLI-1:** A material entity cannot generate a non-material entity.

**SLI-2:** Universal information is a non-material fundamental entity.

**SLI-3:** Universal information cannot be created by statistical processes.

**SLI-4:** Universal information can only be produced by an intelligent sender.

**4a:** Every code is based upon a mutual agreement between sender and receiver.

**4b:** There is no new universal information without an intelligent sender.

**4c:** Every information transmission chain can be traced back to an intelligent sender.

**4d:** Attributing meaning to a set of symbols is an intellectual process requiring intelligence.

**Figure 1.** The four most important laws of nature about information known as scientific laws of information (SLI).

by SLI-4d—excludes the possibility of information coming from non-intelligence. Thus SLI-4b requires here, too, an intelligent author who “wrote” the programs. Conclusion 1 is therefore also a *refutation of atheism*.

The top of figure 2 outlines the realm that is, in principle, inaccessible to natural science; namely: Who is the message sender? To answer that the sender cannot exist because the methods of human science (scientific boundary) cannot perceive him, both misapplies science and is untenable according to the laws of information. The requirement that there must be a personal sender exercising his own free will cannot be relinquished. This Sender, the Creator, has revealed Himself so that we do have information about him. He, Jesus, was in the world and the world was made through Him (John 1:10).

## 2. There is only one god, who is all knowing and eternal

*The information encoded in DNA far exceeds all our current technologies. Hence, no human being could possibly qualify as the sender, who must therefore be sought outside of our visible world.*

We can conclude that:

**There is only one sender, who must not only be exceptionally intelligent but must possess an infinitely large amount of information and intelligence, i.e. he must be omniscient (all knowing), and beyond that must also be eternal.**

[Applying SLI-1, SLI-2, SLI-4b]

### Basis for this conclusion

According to SLI-4b, at the beginning of every chain of information there is an intelligent sender. When one applies this to biological information, then here, too, there must be an intelligent author of the information. In DNA molecules we find the highest density of information known to us.<sup>1</sup> Because of SLI-1, no conceivable processes in the material realm qualify as the source of this information. Humans, who can, of course, generate information (e.g. letters, books), are also obviously excluded as the source of this biological information. This leaves only a sender who operated outside of our normal physical world. After a lecture at a university about biological information and the necessary sender, a young lady student said to me: “I can tell where you were heading when you spoke of an intelligent sender—you meant God. I can accept that as far as it goes; without a sender, that is, without God, it wouldn’t work. But who informed God so that He could

program the DNA molecules?” Two explanations spring to mind:

**Explanation a):** Imagine that this god was considerably more intelligent than we are, but nevertheless limited. Let’s assume furthermore that he had so much intelligence (thus information) at his disposal that he was able to program all biological systems. The obvious question then is: who gave him this information and who taught him? This would require a higher information-giver  $I_1$ , that is, a “super-god”, who knew more than God. If  $I_1$  knew more than God, but was also limited, then he would in turn require an information-giver  $I_2$ —i.e. a “super-super-god”. So this line of reasoning leads to an extension of this series— $I_1, I_2, \dots$  to  $I_{\infty}$ . One would require an infinite number of gods, such that in this long chain every  $n+1^{\text{th}}$  deity always knew more than the  $n^{\text{th}}$ . Only once one reached the  $I_{\infty}$  super-super-super ... god, could we say such a god would be unlimited and all knowing. However, traversing an infinite is impossible (whether it is a temporal, spatial or, as in this example, an ontological infinity) and so this explanation is unsatisfactory.

**Explanation b):** It is more simple and satisfying to assume only a single sender—a prime mover, an ultimate creator god. But then one would need to also assume that such a god is *infinitely intelligent* and in command of *an infinite amount of information*. So he must be *all knowing* (omniscient).

Which of the explanations a) and b) is correct? Both are logically equivalent. Thus we must make a decision that is not derived from the SLI based on the following considerations. In reality, there is no such thing as an actual infinite number of anything. The number of atoms in the universe is unimaginably vast, but nevertheless finite, and thus in principle able to be counted. The total number of people, ants, or grains of wheat that have ever existed is also vast, but finite. Although infinity is a useful mathematical abstraction, the fact is that in reality there can be no such thing as an infinite number of anything that can be reached by counting for long enough. Thus explanation a) fails the test of plausibility, leaving only explanation b). That means there is only *one* sender. But this one sender must therefore be *all knowing*. This conclusion is a consequence of consistently applying the laws of nature about information. It has led us to the same conclusion as that which the Bible also teaches: there is only *one* God; “I am the first and I am the last; apart from me there is no God” (Isaiah 44:6).

What does it mean that God (the author of biological information, the Creator), is infinite? It means that for Him there is no question that He cannot answer, and He knows all things. Not merely about present and the past; even the future is not hidden from Him. But if He knows all things—even beyond all restrictions of time—then He

Himself must be eternal. So through logical reasoning (without the Bible) we have found out why it says in Romans 1:20 that from contemplating the works of creation we can conclude the *eternal* power of God.<sup>2</sup> The Bible also attests to God's eternity (e.g. Psalm 90:2; Isaiah 40:28; Daniel 6:26).

### 3. God is immensely powerful

**Because the sender:**

- ingeniously encoded the information into the DNA molecules
- must have designed the complex bio-machinery that decodes the information and carries out all the processes of biosynthesis, and
- created all the details of the original construction and reproductive capacities of all living things,

**we can conclude that:**

The sender accomplished his purpose and, therefore, he must be powerful.

#### Basis for this conclusion

In conclusion 2, we determined on the basis of laws of nature that the sender (Creator, God) must be all knowing and eternal. Now we consider the question of the extent of His power. "Power" encompasses all that which would be described under headings such as strength, creativity, capability and might. Power of this sort is absolutely necessary in order to have created all living things.

Because of His infinite knowledge, the sender knows, for example, how DNA molecules can be programmed. But this knowledge is not sufficient to fashion such molecules in the first place.<sup>3</sup> Taking the step from mere knowledge to practical application requires the capacity to be able to build all the necessary biomachinery in the first place. Research enables us to observe these "hardware systems". But we do not see them come about other than through a co-ordinated process of cellular replication which requires the same biomachinery to transmit and carry out the replication programs. Thus they had to originally be constructed by the sender. He had the task of creating the immense variety of all the basic biological types (created kinds), including the construction specifications for their biological machinery. There are no physio-chemical tendencies in raw matter for complex information-bearing molecules to form spontaneously. Without creative power, life would not have been possible.

The obvious question here is the same as in conclusion 2: who gave Him this power? This would require a higher power-giver,  $P_1$ , that is, a "super-god", who has more than God. If we proceed as shown before according to

explanation a) and b), we come to the conclusion that the sender must be all powerful.

We can't even begin to quantify the enormous degree of power required to create life on Earth originally. But the Bible shows us the real extent of the sender's power by presenting Him as *all powerful*—omnipotent, almighty: "I am the Alpha and the Omega," says the Lord God, "who is, and who was, and who is to come, the Almighty" (Revelation 1:8).<sup>4</sup> "For nothing is impossible with God" (Luke 1:37).

### 4. God is non-material

**Because information is a non-material fundamental entity, it cannot originate from a material one.**

**We can therefore conclude that:**

The sender must have a non-material component (spirit) to his nature.

[Applying SLI-1, SLI-2]

#### Basis for this conclusion

Unaided matter has never been observed to generate information in the natural-law sense, (i.e. with all five levels: statistics, syntax, semantics, pragmatics, apobetics). Information is a non-material entity and therefore requires for its origin a non-material source. We have already reasoned our way to some characteristics of the sender. Now we have a further one; he must be of a non-material nature, or at least must possess a non-material component to his nature. That is exactly what the Bible teaches in John 4:24: "God is spirit, and His worshippers must worship in spirit and in truth."

### 5. No human being without a soul: refutation of materialism

**Because people have the ability to create information, this cannot originate from our material portion (body).**

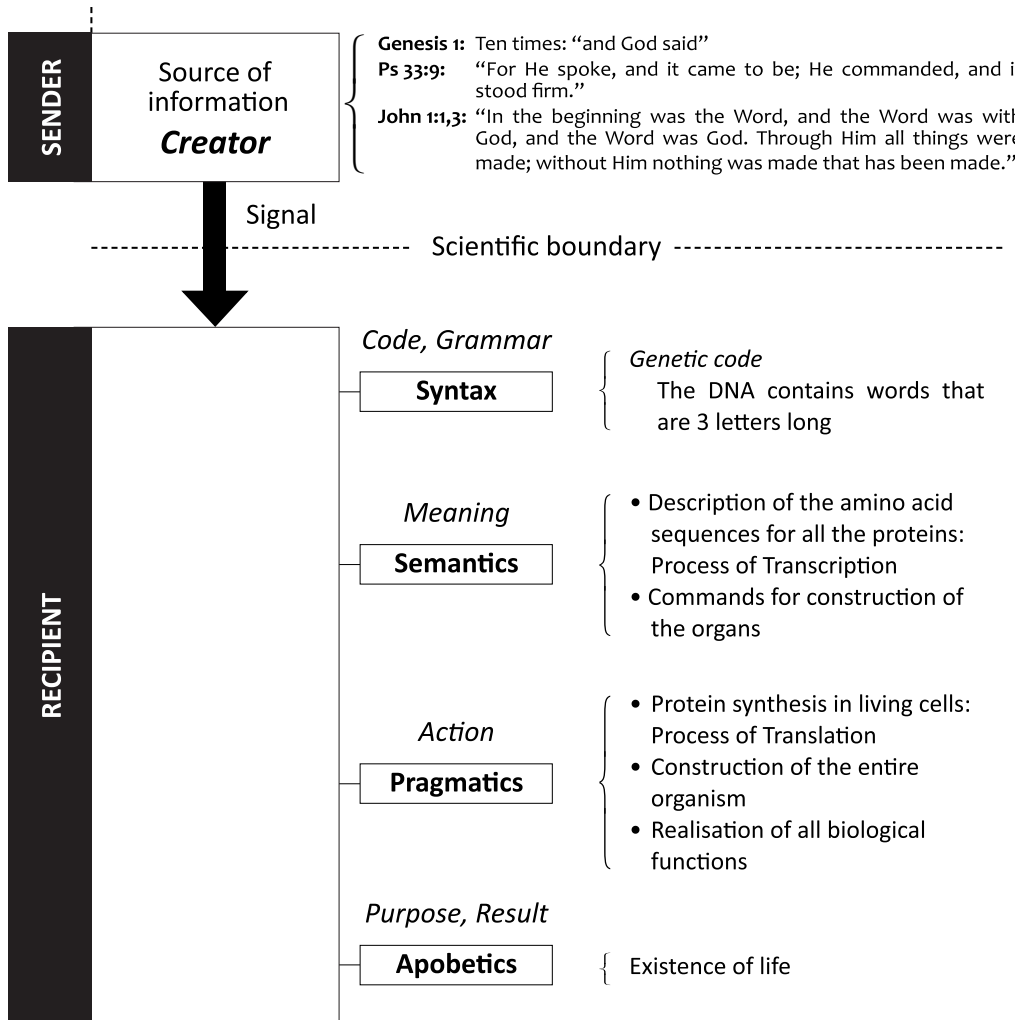
**We can therefore conclude that:**

Each person must have a non-material component (spirit, soul).

[Applying SLI-1, SLI-2]

#### Basis for this conclusion

Evolutionary biology is locked into an exclusively materialistic paradigm. Reductionism (in which explanations are limited exclusively to the realm of the material) has been



**Figure 2.** The origin of life. If one considers living things as unknown systems that can be analysed with the help of natural laws, then one finds all five levels of the definition of information: statistics (here left off for simplicity), syntax, semantics, pragmatics and apobetics. In accordance with the natural laws of information, the origin of any information requires a sender equipped with intelligence and will. The fact that the sender in this case is not observable is not in contradiction to these laws. In a huge library with thousands of volumes, the authors are also not visible; but no one would maintain that there was no author for all this information. If one penetrates beyond the boundaries set by the limits of natural science by consulting the Bible, the Sender reveals Himself as the Almighty Creator.

elevated to a fundamental principle within the evolutionary paradigm. With the aid of the laws of information, materialism may be refuted as follows: We all have the capacity to create *new* information. We can put our thoughts down in letters, essays and books, or carry on creative conversations and give lectures.<sup>5</sup> In the process, we are producing a non-material entity, namely information. (The fact that we need a material substrate to store and transfer information has no bearing on the nature of information itself.) From this we can draw a very important conclusion: namely that besides our material body we must have a non-material component. The philosophy of materialism, which found its strongest expression in Marxism-Leninism and communism, can now be scientifically

refuted with the help of the scientific laws about information. The Bible, too, corroborates the above conclusion that a person is not purely material. 1 Thessalonians 5:23 says: “May God Himself, the God of peace, sanctify you through and through. May your whole spirit, soul and body be kept blameless at the coming of our Lord Jesus Christ.” The body is the material component of a person, while spirit and soul are non-material.

**6. Big bang is impossible**

*Since information is a non-material entity, the assertion that the universe arose solely from matter and energy (scientific materialism) is demonstrably false.<sup>6</sup>*  
[Applying SLI-2]

**Basis for this conclusion**

It is widely asserted today that the universe owes its origin to a primeval explosion in which only matter and energy was available. Everything that we experience, observe

and measure in our world is, according to this view, solely the result of these two physical entities. Energy is clearly a material entity, since it is correlated with matter through Einstein’s mass/energy equivalence relationship  $E = mc^2$ . Is this “big bang theory” just as refutable as a perpetual motion machine? Answer: YES, with the help of the scientific laws about information. In our world we find an abundance of information such as in the cells of all living things. According to SLI-1, information is a non-material entity and therefore cannot possibly have arisen from unaided matter and energy. Thus the common big bang worldview is false. The Bible, too, teaches that this world has not arisen from a process of over billions of years but through creation by an all-powerful God in

six days. So we read in Exodus 20:11: “For in six days the Lord made the heavens and the earth, the sea, and all that is in them, but He rested on the seventh day.”

## 7. No evolution

Since

1. *biological information (the fundamental component of all life) originates only from an intelligent sender, and*
2. *all theories of chemical and biological evolution require that information must have originated solely from matter and energy (no sender),*

we conclude that:

**All theories or concepts of chemical and biological evolution (macroevolution) are false.**

[Applying SLI-1, SLI-2, SLI-4b, SLI-4d]

### Basis for this conclusion

Judging by its worldwide following, evolution has become probably the most widespread teaching of our time. In accordance with its basic precepts, we see an ongoing attempt to explain all life on a purely physical/chemical plane (reductionism). The reductionists prefer to think of a seamless transition from the non-living to the living.<sup>7</sup> With the help of the laws of information we can reach a comprehensive and fundamental conclusion: the idea of macroevolution—i.e. the journey from chemicals to primordial cell to man—is false. Information is a fundamental and absolutely necessary factor for all living things. But all information—and living systems are not excluded—must necessarily have a non-material source. The evolutionary model, in the light of the laws of information, shows itself to be an “intellectual perpetual motion machine”.

Now the question arises: where do we find the sender of the information stored within the DNA molecules? We don’t observe him, so did this information somehow come about in a molecular biological fashion?

The answer is the same as that in the following cases:

- Consider the wealth of information preserved in Egypt in hieroglyphics. Not a single stone allows us to see any part of the sender. We only find these “footprints” of his or her existence chiselled into stone. But no one would claim that this information arose without a sender and without a mental concept.
- In the case of two connected computers exchanging information and setting off certain processes, there is also no trace of a sender. However, all the information

concerned also arose at some point from the thought processes of one (or more) programmers.<sup>8</sup>

The information in DNA molecules is transferred to RNA molecules; this occurs in an analogous fashion to a computer transferring information to another computer. In the cell, an exceptionally complex system of biomachinery is at work which translates the programmed commands in an ingenious fashion. But we see nothing of the sender. However, to ignore him would be a scientifically untenable reductionism.

We shouldn’t be surprised to find that the programs devised by the sender of biological information are much more ingenious than all of our human programs. After all, we are here dealing with (as already explained in conclusion 2) a sender of infinite intelligence. The Creator’s program is so ingeniously conceived that it even permits a wide range of adaptations to new circumstances. In biology, such processes are referred to as “microevolution”. However, they have nothing to do with an actual evolutionary process in the way this word is normally used, but are properly understood as “parameter optimizations” within the same kind.

*In brief:* The laws of information exclude a macroevolution of the sort envisaged by the general theory of evolution.

By contrast, microevolutionary processes (= programmed genetic variation), with their frequently wide-ranging adaptive processes within a kind, are explicable with the help of ingenious programs instituted by the Creator.

The Bible emphasises repeatedly in the account of creation that all plants and animals were created after their kind. This is repeated nine times in the first chapter of the Bible, e.g. Genesis 1:24–25: “And God said, ‘Let the land produce living creatures according to their kinds: livestock, creatures that move along the ground, and wild animals, each according to its kind.’ And it was so. God made the wild animals according to their kinds, the livestock according to their kinds, and all the creatures that move along the ground according to their kinds. And God saw that it was good.”

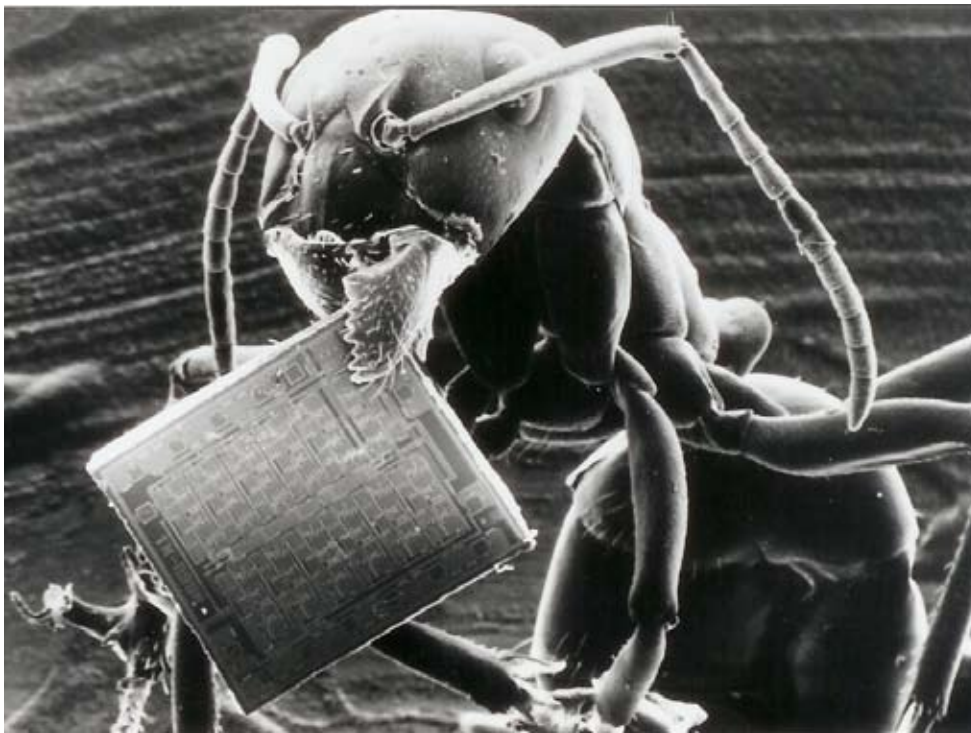
## 8. No life from pure matter

**Because the distinguishing characteristic of life is a non-material entity (namely information) matter cannot have given rise to it.**

From this we conclude that:

**There is no process inherent within matter alone that leads from non-living chemicals to life. No purely material processes, whether on the earth or elsewhere in the universe, can give rise to life.**

[Applying SLI-1]



**Figure 3.** Ant carrying a microchip. Both the ant and the microchip contain information, a non-material entity, that cannot be generated by a material entity and which points to intelligent, creative input. The ant, moreover, contains two non-material parts: information and life. (From: “Werkbild Philips”, with the kind permission of “Valvo Unternehmensbereich Bauelemente”, of Philips GmbH, Hamburg).

### Basis for this conclusion

Proponents of evolutionary theory assert that “Life is a purely material phenomenon, which will arise whenever the right conditions are present.” However, the most universal and distinguishing characteristic of life—information—is of a non-material nature. Thus we can apply scientific law SLI-1, which says: “A purely material entity cannot generate a non-material entity.”

Figure 3 shows an ant with a microchip. Microchips are the storage elements of present-day computers and they represent matter plus information. The ant contains one material part (matter) and two non-material parts (information and life).

We repeatedly hear of the discovery of water somewhere in our planetary system (e.g. on Jupiter’s moon Europa), or that carbon-containing substances have been found somewhere in our galaxy. These announcements are promptly followed by speculations that life could have developed there. This repeatedly reinforces the impression that so long as the necessary chemical elements or molecules are present on some astronomical body, and certain astronomical/physical conditions are fulfilled, one can more or less count on life being there. But as we have shown with the help of two laws, this is impossible. Even under the very best chemical conditions, accompanied by

optimal physical conditions, there would still be no hope of life developing.

Since the phenomenon of life ultimately requires something non-material, every kind of living thing required a mind as its ultimate initiator. The four Australian scientists *Don Batten, Ken Ham, Jonathan Sarfati* and *Carl Wieland* thus correctly state: “Without intelligent, creative input, lifeless chemicals cannot form themselves into living things. The idea that they can is the theory of spontaneous generation, disproved by the great creationist founder of microbiology, Louis Pasteur.”<sup>9</sup> With this new type of approach, applying the laws of information, Conclusions 7 and 8 have both shown us that we can exclude the spontaneous origin of life in matter.

### Conclusion

No one has ever observed water flowing uphill. Why are there no exceptions to this? Because there is a law of nature that universally excludes this process from happening. Many plausible arguments have been raised against the teachings of atheism, materialism, evolution and the big bang worldview. But if it is possible to find scientific laws that contradict these ideas, then, since scientific laws have the highest degree of scientific credibility possible, we will have scientifically falsified them. We will have done so just as effectively as the way in which perpetual motion machines (those which supposedly run forever without any energy from outside) have been shown to be impossible through the application of scientific laws.

This is precisely what we have demonstrated in this paper. We have presented four scientific laws about information.<sup>10</sup> From these we can generate comprehensive conclusions about God, the origin of life, and humanity. With the help of laws of information we have been able to refute all of the following:

- The purely materialistic approach in the natural sciences.
- All current notions of evolution (chemical, biological).
- Materialism (e.g. man as purely matter plus energy).
- The big bang as the cause of this universe.
- Atheism.

## Acknowledgments

I thank Bob Compton, Jorge Fernandez, Harvey Nimmo, and Carl Wieland for their helpful comments and the discussion of various ideas related to the manuscript.

## References

- Gitt, W., Information: the third fundamental quantity, *Siemens Review* 56:2–7, Nov/Dec 1989. \_\_\_\_\_, Neues Maß zum Vergleich hoher Speicherdichten. Jahresbericht 1997 der Physikalisch-Technischen Bundesanstalt in Braunschweig, p. 280, März 1997. \_\_\_\_\_, In the Beginning was Information. 3<sup>rd</sup> English ed., 2001, Christliche Literatur-Verbreitung Bielefeld. \_\_\_\_\_, Am Anfang war die Information, 3. überarbeitete und erweiterte Auflage 2002, Hänssler-Verlag, Holzgerlingen.
- Romans 1:20 (NIV) states: “For since the creation of the world God’s invisible qualities—his eternal power and divine nature—have been clearly seen, being understood from what has been made, so that men are without excuse.”
- This does not even consider the question of the creation of the individual atoms but merely their arrangement into DNA, which does not spontaneously happen from physics and chemistry. Further, any random sequence of nucleotides will not do. Highly specified sequences of nucleotides are required, with complexity beyond an engineer’s comprehension. In living things it happens via programmed machinery. To synthesize them in the laboratory requires the application of energy plus intelligence plus knowledge plus wisdom plus physical resources.
- That which we cannot conclude from any natural law is revealed to us by God Himself. The Almighty One who made and created all this is God the Son, who at the proper time came in the flesh as Jesus Christ, the Son of God. Colossians 1:16–17 says of Him: “For by him all things were created: things in heaven and on earth, visible and invisible ... all things were created by him and for him. He is before all things, and in him all things hold together.”
- Living organisms have the ability to communicate with each other. Bees use a special dance to inform their fellows that they have found a new source of food. They have neither invented the code system nor have they produced information creatively. They use a code system that their creator has installed in them. In this sense, the sender-bees are comparable with a Mars robot that has made a chemical analysis of Mars rocks and transmitted the data back to Earth. The robot was created by someone who thought up the code system and developed the program. Although the robot sends new information from Mars, it has nonetheless not produced creative information. And since the robot is not the source of the information, it does not need a non-material component.
- The evolution paradigm is regarded as a universal principle. Hoimar von Ditfurth has formulated it thus: “The principle of development not only holds for life on earth; it extends much further. It is quite clearly the most widely valid principle imaginable, because it encompasses the entire universe ... All of reality around us is characterised by a history of self-development. Biological evolution is only part of this universal process.” (Wir sind nicht nur von dieser Welt, München, p. 22 1984.). This evolutionary paradigm forms a chain in which each link is indispensable: big bang—cosmological evolution—geological evolution—biological evolution. A break in the chain means that the structure will collapse. Inference no. 6 means that the first link in the chain is already broken. And we may state it thus: a big bang that gives rise to information and life is scientifically unrealistic.
- Küppers, B.-O., *Leben = Physik + Chemie? (Life = Physics + Chemistry?)* Piper-Verlag, München, Zürich, 2. Auflage, 1990.
- This can be viewed as an imperfect analogy of reproduction. One organism “programs” matter to generate another program-bearing creature capable of doing the same. No intelligent intervention is involved. But

here, too, one cannot trace it back indefinitely. In reproduction we see no information created, but we see information frequently lost through genetic mistakes (mutation). Hence the original information had to arise through the application of intelligence (mind). This is consistent with God programming the first creatures of any particular kind, including building in the capacity to vary within limits.

- Batten, D., Catchpoole, D., Sarfati, J. and Wieland, C., *The Creation Answers Book*, Creation Ministries International, p. 142, 2006. Batten, Catchpoole and Sarfati are Ph.D. scientists, and Wieland has a medical degree. All are actively involved with writing and speaking on Bible/science topics.
- Gitt, W., Scientific laws of information and their implications—part 1, *Journal of Creation* 23(2):96–102, 2009.

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