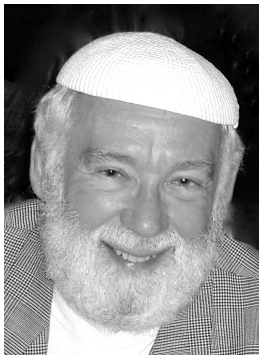


Evolution and “I”

By Abraham Rempel



Abraham Rempel

Born in 1945, Abraham Rempel is a Canadian, Mennonite-Anabaptist, happily married father of two, Brock University graduate in Classical Studies, retired business man, wannabe golfer, and an avid reader with a lifelong goal to write.

Rempel remembers the story of the “autodidact” who learned how to be a plumber by reading every manual he could find and then undertook to learn scuba diving because his basement had flooded, yet acknowledges that most of what he has learned came from self-study. He has a well-honed personal library of Biblical studies, histories both ancient and modern, and the sciences, mostly natural science and cosmology.

In November of 2014, he published *The Book of Nots in Science & Religion*. In the prologue, he wrote:

“I am not an expert in any of the subjects or themes in this book, and those themes cover a very wide range in both science and religion. Despite my endless reading, diligent research, and best effort at careful wording, it is a forgone conclusion that some level of error has crept in. Even as a competent generalist, I can’t claim that everything in the book is exactly right... I’m still learning.”

He became a Torch Club member in 2003 and has served on the club executive almost every year since then. He was the St Catharines Club President in 2010-2011.

“Evolution and ‘I’” was presented to St Catharines Torch Club on October 9, 2014.

Here is a sincere compliment with a purpose. The “I” in my title, “Evolution and ‘I,’” is for *Intelligence*, and I am using you, our Torch readers, as an example. What first comes to mind, manifestly, are your academic achievements. But even more obvious are your accomplishments in vocations, marriage partners, family relationships and personal interests. I take what you have accomplished with your lives as a sign of intelligence and purpose. This compliment, sincerely given, will lead to what I believe is a momentous conclusion.

I will begin by making a statement that some of you will have little sympathy for and perhaps find unsettling. The statement: “We are already in a Post-Darwinian Age.” By that I mean that the reigning scientific paradigm of the past 150 years has run its course. I am referring, of course, to the theory of Evolution, which is currently embroiled in a controversy from which it is unlikely to fully recover. While the end of Darwinism may not be evident from within the public arena, a groundswell of voices from professional scientists to well-read laymen are dismissing Darwinism as a failed theory, and as a theory long overdue in succumbing to its one fatal weakness—that that which appears to be designed really is designed.

Intelligence does not have a neat and tidy definition, and neither do Evolution or Darwinism. But allow me to posit that Charles Darwin based his theory on only two pillars, *universal common ancestry* and *natural selection*. The first pillar, universal common ancestry, holds that all life-forms, whether living or extinct, have one singular ancestor in common. That is, originating from one very simple

living cell, numerous other life-forms evolved with ever increasing complexity. Darwin’s theory is best illustrated by what he called “the great tree of life.” Beginning with the trunk of the tree, all the many life-forms evolved upwards through its limbs, branches, and sub-branches, becoming more and more complex at each division or nodule, and at the apex of the tree of life is the most complex species of all, the human species.

Natural selection, the second pillar, is Darwin’s proposal for the engine or mechanism that drives the theory. Darwin began with a simple observation. Sheep farmers had coaxed into their flocks a variety of hardier and woollier sheep through selective breeding. Other breeders had produced a bewildering array of pigeons, each one more astonishing than the next—the same for dogs, and so on. Therefore, Darwin reasoned, if selective breeding through human ingenuity could result in so much variation, nature could do the same and vastly more over longer periods of time. Accordingly, nature, as the agent of evolution and active over millions and millions of years, has selected the most desirable and inheritable traits in producing an endless variety of life-forms. Hence the term “natural selection.”

From the beginning Darwin had a vexing problem, to which he devoted two chapters in his landmark book *The Origin of Species*. Even in the 19th century it was already apparent that the fossil record was telling a very different story, and as the science of paleontology (the study of fossils) grew in maturity, the problem only worsened. What troubled Darwin – even causing him to doubt his own theory – is now known as the *Cambrian*

Explosion.¹ There is a vertical column that arranges the fossils found in Earth's sedimentary layers from simple to complex, somewhat akin to Darwin's great tree. The first layer to contain fossilized life is known as the *Precambrian Period*. The fossils there are nearly all single celled and microscopic – microbes, bacteria, algae and sponges for example. The Precambrian Period encompasses about 85% of the Earth's history, and most of its life-forms can only be found with high-powered microscopes.

This makes the Cambrian Period, when most of the major animal phyla (category or division) first appear in the fossil record, all the more astonishing. Darwin had written that the sudden appearance of multi-celled and complex life-forms presented the gravest challenge to his theory. The magnitude of the challenge only compounded until it came to a resounding conclusion with the discovery of the Burgess Shale Formation in British Columbia in 1909. This amazing depository of petrified life-forms unearthed tens of thousands of fossils with entirely new body plans exponentially distinct from those in the previous Precambrian layer. Because the formation had fossilized an array of soft-body parts, features such as eyes, mouths, intestines, stomachs and digestive glands were preserved in exquisite detail. It was the sudden appearance and the abundance of these multi-cellular and multi-organ life-forms that gave the Cambrian Explosion its name. By 1995, nearly a century and a half after Darwin had written his book, the conclusions suggested by the Burgess Shale Formation were confirmed by an even greater and older array of animal phyla in the Chengjiang discovery in southern China.

The ensuing challenge to Darwinism was three-fold. Primarily, the new organisms or body plans had no antecedents. That is, they had no clear

ancestral relationships to those of the Precambrian era. Next, twenty of the twenty-six known phyla arose independently in the Cambrian era, each one quite unique as a type or species. Finally, the explosion of animal life-forms took place in no more than five to six million years, in only one-tenth of one percent of the Earth's geological history. To recap: the explosion of animal life-forms occurred far too rapidly to be accounted for by a theory of gradual descent; each of the twenty or so basic phyla or animal categories arose independently, contrary to the tree-of-life hypothesis; and none of the new types were related to the primitive life-forms of the preceding era. The last point is the most damaging for Darwinism: there are no transitional fossils bridging the gap between the Cambrian and Pre-Cambrian periods. None.

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In Darwin's theory, evolution by natural selection was to be by many small increments over long periods of time, with the emphasis on "many" and "small." Large-scale changes in animal traits or genetic makeup were not expected or thought feasible; hence the requirement for timeframes in the hundreds of millions of years. Moreover, the required variations would arise from random events. Whether by chance, accident, or even luck, the variations that would eventually result in new body plans are essentially undirected, according to the theory. Nature could select from the many variations possible, but not direct or

guide the process. It was Darwin's insight—some have said genius—to altogether remove design as a cause from the process of evolution.

One of the greatest discoveries in the history of science came in 1953, when James Watson and Francis Crick determined the molecular structure of deoxyribonucleic acid or DNA. Their momentous discovery allowed biologists to understand how genetic information is transmitted, utilized, and stored within living cells. Significantly, it also spelled out the occurrence of genetic mutations. The latter was very encouraging for *Neo-Darwinism*, the modern version of Evolution, which combines natural selection with genetics. Herein, they thought, was the mechanism that drives the process of evolution. They reasoned that random mutations bearing novel genetic information—again over very long periods of time—would lead to new body plans and the vast number of disparate species. Mutations, the Neo-Darwinists proposed, underlay the process of Evolution.

Much of the experimental work in genetic mutation has been focused on the fruit fly, *Drosophila melanogaster*. The hyper-fertile *Drosophila* can lay up to a hundred eggs per day, eggs that mature in only ten to twelve days. Subjected to X-rays, more than 3000 mutations have been documented since the early 1900s, resulting in flies with different colors, flies with extra wings, flies with legs growing from their heads, and so on. And yet, in over a century of experimentation, under the guidance of many highly capable scientific minds, and multiple millions of fruit fly generations, no new viable fruit fly has ever come forth. All the laboratory-induced mutations caused either infertility or fruit flies that could not survive in nature.

The Neo-Darwinian hope for an explanatory mechanism in Evolution was short lived. There was a crucial

problem with the number of mutations required to generate actual changes and new species. The nature of the problem was driven home by the Wistar Conference in Philadelphia in 1966, a gathering of many distinguished scientists that also included engineers and mathematicians. First, the engineers demonstrated that even a few random changes in the digital characters of a computer program trigger the program to malfunction and crash. Second, the mathematicians calculated the number of random mutations required to generate distinctly new life-forms, and that number was unbelievably high. It exceeded the number of atoms contained in the entire universe, or, conversely, an age for the universe of many trillions of years, theoretically a nonexistent time-frame. Although many scientists simply ignored the conclusions of the Wistar Conference, informed dissatisfaction with Neo-Darwinism had been amplified.

By the end of the 20th century, the evolutionary debate had taken a turn. It was certain that most living things made their appearance in the fossil record fully formed and highly complex. In addition, the new and burgeoning field of molecular biology was demonstrating just how complex living things truly are. And not just the living things themselves—every cell in every living creature was complex. Biologists have compared the structure of a cell with the complexity of a modern-day city, complete with streets, a city hall, factories, libraries, police and fire stations, power generators, storage units, recycling plants and a sewage system, not to mention legislative assemblies, fertility clinics and restaurants. The comparison is intriguing, and may also be significant. Complex cities never originate through a series of unguided events. They require a great deal of intelligence, foresight and planning.

We also now know that not even a city can match the amount of information held in the nucleus or “brain” of a typical cell. In a report in *Science*

(August 2012), two scientists at Harvard’s Wyss Institute crammed 700 terabytes of data into a single gram of DNA. Using binary code to preserve text, images and formatting, the researchers made 70 billion DNA copies of a book to be published later in the year (Church, Gao, and Kosuri). The amount of information in a cell, any part of a cell, or even just a single string of DNA, is truly incomprehensible. Therein lies Microsoft’s Bill Gates’s frequently quoted verdict that “DNA is like a computer program but far, far more advanced than any software ever created” (188). The real sticking point for Darwinists: in every other circumstance, *information* is associated with *intelligence*.

The modern arguments for Intelligent Design are less theological than Paley’s, much more scientific, and decidedly compelling.

By early in the 21st century, new terminology had entered into the vocabulary of scientific thinking. Michael Behe first used the term “irreducible complexity” in his 1996 book *Darwin’s Black Box*, using as an example the flagellum of *E. Coli* bacterium, the propeller-like component that gives the cell its mobility. He compares the flagellum to a mouse trap, insofar as not one of its five parts can be removed without rendering the trap inoperative. For Behe, that invalidated the standard view of Evolution where components can be added one at a time until an organism becomes functional. The term “specified complexity” was coined

by William Dembski to distinguish the complex information within cells evincing purpose and design from information that appears to be random or undirected. The letters in a Shakespearean sonnet, for example, are both complex and specified. Stephen Meyer, another modern proponent of Intelligent Design, likes the term “specified information” as a synonym for functional information, “because the function of a sequence of characters depends upon the *specific* arrangement of those characters” (168).

The case for Intelligent Design is hardly new. In 1802, William Paley presented the classic argument in his book, *Natural Theology*. In his famous analogy, no one could doubt that a watch found on a heath was designed by a craftsman. Its complexity and intricate purpose would distinguish it from the stones against which Paley may have stubbed his foot. So also, for Paley, a bird’s wing and the antennae of an earwig were manifestations of design. Current-day theorists cite the human eye, the aforementioned *E. Coli* flagellum, and the blood-clotting mechanism as examples whose individual elements could do little were they acquired one-by-one incrementally over time, but are functional when occurring simultaneously. These examples of “irreducible complexity” seem recognizably artifacts of intelligent design. The modern arguments for Intelligent Design are less theological than Paley’s, much more scientific, and decidedly compelling.

Intelligent Design as a scientific thesis has not been well received by the adherents of Neo-Darwinism. Evolutionists agree that things in the natural world, both living and non-living, do have the appearance of design, but are adamant that it is just that, an appearance. As Edward Humes wrote in his 2007 book, *Monkey Girl: Evolution, Education, Religion and the Battle for America’s Soul*:

Darwin’s brilliance was in seeing beyond the appearance of

design, and understanding the purposeless, merciless process of natural selection, of life and death in the wild, and how it culled all but the most successful organisms from the tree of life, thereby creating the illusion that a master intellect had designed the world. (119)

And so the counter argument goes on. To help us understand, we need to go back to the Greek philosophers of the 5th century B.C. and the origin of *materialism*. Those *atomists* taught that matter is the only true reality, and that all natural phenomena and processes can be explained in terms of physical events. In one way or another, materialists reject the existence of anything non-physical, such as spirit, mind or intelligence. Materialism is also deterministic, and rejects the notion of real choices, maintaining that free will and design are only appearances.

Consequently, in our relatively modern definition of science, there are no intelligent causes anywhere in the universe. Speaking for the scientific community in a 1997 book review, a Harvard biology professor famously remarked:

It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our prior adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counter-intuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door. (Lewontin)

The “divine foot in the door” is not entirely a religious reference. Our modern and materialistic approach to life has zero tolerance for such mind related functions as consciousness, intentionality, meaning, value, and purpose. From the beginning, Darwin’s theory rejected the notion that design played any role whatsoever in the formation of the natural world and all living things, and resolutely emphasized that “natural selection” was arbitrary, unplanned, undirected, indiscriminate, and even haphazard. If we can understand this one pillar in Evolution, then we have understood the theory in its essence as a strict and unwavering materialistic philosophy.

It is an open question how much influence the proponents of Intelligent Design will have on the scientific community. By and large, they have already been rejected by those in the mainstream. Nonetheless, some working hypotheses for intelligent causes are already established in the scientific domain. A pathologist needs to determine if the cause of death was natural, accidental or perpetrated by an outside agency with purpose in mind. An archeologist needs to determine if an artifact has been designed by weathering and such or crafted by a human hand. Similarly, a cryptologist determines if etchings on stone are accidental or purposeful. Even in the SETI program, there is no doubt in the minds of those searching for intelligent life that random events are meaningless in their pursuit—they are unequivocally looking for signs of intelligence. In such contexts, many scientists have already acknowledged that intelligent causes are identifiable.

Fellow Torch readers, many of you can look back on a long life of fulfillment. As you reflect on your accomplishments, whether academic, professional or personal, very few of you (if any at all) will claim that those treasured accomplishments came by chance. In the course of your lives

choices were made, plans activated, diligence applied, and no doubt many errors corrected. But the end result came, and with it a certain modest pride that you did it, you made it happen. Therefore, the momentous conclusion I alluded to at the beginning of this paper is just this: each of us as individuals and collectively as associates is an intelligent cause. We make things happen and find fulfillment in what we achieve. Intelligence is surely at the apex of how we define ourselves as human beings and trumps the now discredited theory of undirected and random events in telling us who we are.

Note

1 “The difficulty of understanding the absence of vast piles of fossiliferous strata, which on my theory no doubt were somewhere accumulated before the Silurian [Cambrian] epoch, is very great... I allude to the manner in which numbers of species of the same group, suddenly appear in the lowest known fossiliferous rocks” (*The Origin of Species*, Chapter 9). Reader, take note: The microorganisms of the preceding Precambrian epoch were unknown in Darwin’s time.

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