

Coming to Terms with Evolution: A Personal Story

MY STORY IS NOT unique. Everyone wrestles at some point with the meaning of life, and for a scientific generation like ours, this process of personal discovery is often connected to the issue of origins. It is both natural and logical. Understanding how humans came into being will affect our beliefs as to who we are, how we live, and what we hope for. Like many people, I lost my childhood faith as a university student after studying evolutionary biology. In returning to the Lord years later, I rejected evolution, as most Bible-believing Christians do. These are common experiences for people raised in a culture entrenched in the evolution vs. creation dichotomy.

At the same time, my story is rather unusual in that I completed a PhD in theology and a PhD in biology in order to make sense of origins. As well, the view of creation that I finally embraced is rarely, if ever, heard in churches. Becoming an evolutionary creationist during graduate school involved many trying moments. Yet I have come to the conclusion that struggle is a vital part of the human voyage and our relationship with the Creator. In fact, the word “Israel” is made up of the Hebrew words *śārâ* (to struggle, persist, exert) and *’el* (God). It first appears in the Bible after Jacob wrestled with God. Following this encounter, the Lord declared, “Your name will no longer be Jacob, but Israel, because you have struggled with God and with men and have overcome” (Gen 32:28). Since Christians are the New Israel, we can expect that our spiritual journey will include some difficult and challenging periods. Dealing with origins will be one of those times.

Before beginning my personal story I would like to make one cautionary comment. My conversion to Christianity as a young adult is one

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of those born-again stories. Regrettably, there is a gossipy tabloid interest in some church circles to publicize these dramatic sinner-to-saint conversions, and too often the sins of the past get glorified instead of the Blood that paid for sin. As I share a few stories about where my sinfulness led me, I pray that they not be interpreted as boasting about sin or spiritual pride. Being in rebellion toward God is nothing to be proud of. I simply want to show the intimate connection that existed between my view of origins and my behavior. The point in sharing some of this personal history is to underline that the topic of origins is indeed a very important issue. It shapes our worldview and how we act. Here now is my spiritual and intellectual journey in coming to terms with evolution.

RAISED IN THE ORIGINS DICHOTOMY

I was born into a good French-Canadian Roman Catholic home and I enjoyed a fine education provided by the Catholic school system in Edmonton, Alberta, Canada. There was unconditional love and healthy discipline in our family. My mother was a stay-at-home mom and a deeply committed Christian. Her central “commandment” to her five children was simply “be good to each other.” I suspect that I will never fully appreciate the spiritual impact of her love, prayers, and godly example on our family. Dad owned a car alignment business and worked six days a week. One of his favorite “proverbs” was “When you’re eighteen get the *%@# out of my fridge!” Indeed, he ingrained in his children a sense of accountability. We understood that it was our responsibility to take care of ourselves and become contributing members of society.

My faith was typical of any child in that it was dependent on those around me—family, school, and church. I distinctly remember intimate moments in prayer before the Lord that were as real as any that I experience today. I understood the difference between right and wrong at an early age, and confessing my sins brought a wonderful peace to my soul. In particular, I recall the sense of being clean following the Catholic practice of confession. I also remember the power of music at church, especially the song *Holy, Holy, Holy* which always moved me. Those early years were rather uneventful. I loved to play hockey and golf, never got into any real trouble, and even enjoyed school and got good grades when I tried. I was just an average Catholic kid growing up during the 1960s in Canada.¹

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These early childhood influences eventually gave way to the forces of a growing secular culture as I was leaving high school in 1972. I was the eldest in our family and the first among my relatives to go to a university. It was an intimidating experience to say the least. I entered Collège St. Jean, an affiliate college of the University of Alberta. The college was the intellectual and cultural center of the French-Canadian community where students could take many of their undergraduate courses in French. Sadly, the college was by and large secularized despite its Roman Catholic roots. It was steeped in the political and philosophical thinking of twentieth century French culture. Many viewed atheists Albert Camus and Jean Sartre as intellectual heroes.

I understood the message of these French philosophers to be that life was ultimately absurd and meaningless, and that our best response to this bleak reality was to take charge of our situation and live for the moment. It takes little imagination to speculate on how such a worldview is implemented by a healthy eighteen-year-old male in the process of losing his religious moorings. There were a few priests at the college, but I do not remember them ever standing up to defend God or Christianity. They were kind and everybody liked them, yet we saw them as irrelevant “nice guys.” As well, I cannot recall one student who was openly Christian. There was an intellectual smugness amongst those who claimed to be agnostics and atheists, and I interpreted this attitude to mean that the best thinkers had long ago rejected the existence of God. Like any first-year university student, I was impressionable and wanted to fit in. Not recognizing the indoctrinating secular pressures upon me, it was not long before I was being swayed by the ideas and attitudes of professors and senior students.

The most powerful force shaping the development of my worldview during the early university years was science, in particular the theory of biological evolution. Scientific evidence was more convincing to my mind than the arguments of philosophers because it was tangible. Being a biology major, I quickly succumbed to a second smug attitude, which was that science is the only credible form of thinking. The so-called “artsies” in the humanities dealt only with shifting “opinions” and “subjective” knowledge, while scientists were engaged with the hard “facts” and “objective” Truth.² We in the science departments were the university’s “pure” thinkers. The success of science in the world needed no defense because everyone enjoyed its fruits daily. It was natural then for me, like so many others, to believe that only science explained reality and would

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even offer solutions to all our problems. Indeed, there wasn't a better boy positivist than me!

My first course in biology was on evolutionary theory. The instructor began the introductory lecture by stating that evolution did not necessarily undermine religion. But most of us interpreted this as a politically correct statement, since after all, the college had Catholic roots. During the course we were exposed to an incredible amount of biological beauty, complexity, and functionality. Yet not once was the notion of intelligent design ever mentioned. This is regrettable, because the concept of natural revelation is a time-honored principle in Roman Catholic theology. The silence was deafening. And the message was clear: the origin of life through only natural processes fitted nicely into the secular worldview that was appearing in all my other classes. It also seemed that every aspect of our existence was marked by Darwin's mechanism of evolution, the famed concept of "survival of the fittest." I was seeing that only the strong survived in sports, academics, and of course, dating and mating. All around me a ruthless competitiveness was being subtly endorsed, and a cutthroat aggressiveness was slowly developing in me.

I then made what I thought was a logical deduction: if evolution is true, then the Bible must be wrong and Christianity is false. Scripture states that the world was created in six days, but science proves otherwise. Arriving at this conclusion was painless and involved little to no struggle. Even though I had had some real spiritual experiences, my Christian faith to that point in life was at best inherited, poorly nurtured, and never really examined. It lacked personal commitment and a mature love for God. This religious belief was typical of most of my friends in that it was dependent on our families and Catholic school education. However, my surroundings had changed. I was now in the secular university world. For the first time in my life I was consciously developing a worldview. But I started this process of self-discovery trapped in the origins dichotomy.

The decision to reject the Bible's view of origins soon came to the attention of my parents. I remember the discussion like it was yesterday. It was a classic confrontation. Mom and dad challenged my dwindling church attendance, and I defended my lack of interest in Christianity with my newly acquired scientific worldview and the theory of evolution. My parents were handcuffed and could not respond to the evidence and arguments I offered. They had never had the privilege of attending a university or studying science and biological evolution. I distinctly

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remember pounding on the kitchen table numerous times and stating that Noah's flood never occurred because there was no scientific evidence whatsoever for a worldwide flood. Instead, the fossil record proved that life on earth came about through evolution. I am sure that this episode was very difficult for my parents. They experienced the success of scientific advances daily, yet their first-born child was arguing that science disproves the Bible and their religious beliefs.

The break from Christianity during my first year of college did not result in immediately becoming an atheist with a view of life having no ultimate purpose or meaning. At the end of my freshman year, I recorded in my diary:

It seems that whenever someone does something it can be explained away by examining the individual's background. The more I study this the more it seems that man is nothing but mere chemical reactions programmed by DNA. . . . But there's more, I'm sure.
(28 April 1973)

Science was the most influential factor informing my worldview. I accepted that biology explained our physical origins, and this was quickly followed with the belief that psychology accounted for our behavior. DNA was not only the basic component that connected all of life through evolution, but genetics explained our mental capacities, daily behavior, and even religious tendencies, as I learned in a course on evolutionary psychology. During the early 1970s, positivism and scientism reigned in universities and students were being thoroughly indoctrinated with this secular bias. It asserted that if a statement cannot be proven scientifically, then it is meaningless, and therefore not true and of no consequence. According to this skewed view of science, religion is only an illusion and an accidental by-product of human evolution.

I was certainly going down the path to atheism. Yet as my diary entry reveals, something deep inside my soul told me that despite our biological basis and psychological conditioning, "there's more, I'm sure." I understood where the logic of my science was leading me, but intuitively I sensed some sort of ultimate purpose or meaning in the universe. Today, I realize that this "voice within" is common to all of us thanks to God's grace and the way in which He has created us. Natural revelation is a powerful declaration that the world is teleological. It also provides us with a basic sense of right and wrong referred to in Scripture as the "law

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written on our hearts” (Rom 2:15). But even this last ray of light was being darkened by my secular education. Psychology classes wrote off any sense of guilt or traditional morality I experienced as mere behavioral conditioning from my Roman Catholic upbringing. To have an authentic life, I was told that I had to transcend my religious baggage. And before long, my own sinfulness and the hardening of my heart saw me swept away by the values of a time that has come to be known as “the drugs, sex, and rock n’ roll generation.”

My soul yearned for purpose and meaning, but I had no idea where these were to be found. Entrenched in the origins dichotomy, the Bible and organized religion were not even considered in my developing worldview. I did not reject the existence of God outright, yet I lived as if He did not exist. Except, of course, when I desperately needed Him, like when it looked as if I might become a teenaged father—I sure prayed a lot then. In other words, I was basically a deist with a god-of-the-emergencies to save me from the consequences of my foolishness and immorality.

I entered the faculty of dentistry at the University of Alberta in the fall of 1974. I also joined the Canadian Armed Forces at that time in order to pay for my education. Dental school was the first time I had ever encountered people my own age who were completely committed to their religious beliefs and concerned about witnessing the Gospel. I was impressed with their many arguments for the existence of God and the belief that He had inspired the Bible. But more importantly, the greatest witness to faith was the consistent and godly lifestyle these students led. That spoke volumes to me more than any rational defense for Christianity, and I never forgot it. In many ways, I wanted what they had. Though that small voice in my soul was becoming more silent as my heart hardened, it nevertheless revealed to me that godly living was right, and deep inside my spirit I yearned for it.

Yet I was entrenched in a lifestyle marked by godlessness and lustful excesses. The details are not important, other than to confess that life centered all on my desires and me. The deism in my early university years slipped into and out of agnostic periods until finally I embraced atheism. In a revealing entry in my diary, I came to the conclusion:

Love is a protective response characteristic of all animals, except expressed to greater levels in man because of his superior intelligence. (20 June 1977)

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I remember well the period during which I wrote this entry. I was wickedly cynical at the time. One of my favorite aphorisms was “love is a herd response.” In other words, humans are just a herd of procreating animals. It does not take much imagination to picture how I treated women. Even marriage didn’t really mean anything because it was “nothing but” a convention invented by men to control society. There wasn’t anything sacred about it, after all the Sacred did not exist. Though my heart was hardening and getting darker, there was still a small voice telling me that what I was doing was wrong. Yet this sense of guilt was rationalized away with a dysteleological interpretation of psychology and evolution. I wrote off the voice inside me as simply conditioning from my Roman Catholic upbringing, and I often repeated a mantra I had concocted:

Psychological baggage of Catholicism, you’re nothing but an animal. Psychological baggage of Catholicism, you’re nothing but an animal. Psychological baggage of Catholicism, you’re nothing but an animal.

In the last year of dental school, some Christians in the class invited me to a debate that eventually had a huge impact upon my life. The two participants were a leading young earth creationist from the United States and a dysteleological evolutionist from the biology department. My first thought was that this was a joke. Who could be so ridiculous as to challenge evolution at a major university? Yet, I was intrigued. Still trapped in the origins dichotomy, I reasoned that if there was a God and the Bible was true, then the issue that derailed my childhood faith—biological evolution—would have to be dealt with. So I went. The anti-evolutionist was Dr. Duane Gish from the Institute of Creation Research, the most important creation science organization in the world. He had a PhD in biochemistry from the University of California at Berkeley. This certainly caught my attention because I had never imagined that there were real scientists who were anti-evolutionists. But more shockingly, Gish took the biology professor to task.³ I cannot remember details of the debate, but a powerful impression had been made on me. It might be possible to defend the existence of God scientifically. At a deep foundational level, my dysteleological worldview was shaken. And as my story will reveal, I never forgot the name “Gish.”

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A PEACEKEEPER MEETS THE PRINCE OF PEACE

I graduated from dental school in 1978 and began serving a four-year contract with the Canadian Armed Forces. It was wonderful to be out of school for the first time in my life. Secular culture had indoctrinated me into thinking that happiness was found in a self-serving lifestyle. For me, this meant fast cars, lots of parties, and playing as much golf as possible. I had the toys that most of the boys wanted. From a distance, people would say I was having the time of my life. However, I had an uneasy feeling deep inside of me. To use an aphorism of that day, I knew that “there was something wrong with this picture.”

The military environment certainly provided many opportunities for wantonness. One of the most sought after postings was a six-month tour of duty on the island of Cyprus as a United Nations peacekeeper. The political situation had settled down and there was no real danger. The tour was unaccompanied, meaning that families stayed behind in Canada. We worked mornings, enjoyed the sun and sports in the afternoons, and three to four evenings a week there was some sort of social engagement with lots of alcohol. I had started applying for Cyprus when I was still in dental school. This is the only part of my story where I’ll share a few sordid details because I think they are important in understanding my conversion to Christ.

I left for Cyprus in October 1979. The night before leaving I “reasoned” that since this was the last time I would be in Canada during the 1970s, I had to celebrate. I found a party with some gentlemen from Newfoundland. They are well known for their hard drinking and in particular a moonshine called “screech.” Of course, being from Western Canada, my cowboy logic led me to conclude that I had to give these east coast boys a few lessons in how to drink. I had never had screech before, and all I remember are flashes of being carried out of the party, flying across the ocean on a plane, and landing in Lahr, Germany. I was never so sick in all my life. I stayed in bed for three days and I was enraged with myself for wasting my first time in Europe. I had drunk excessively before, but never to this extent. The experience scared me. For the first time in my life, I wondered if I had a problem and whether I was losing control. Let me be clear: I am certainly not endorsing alcohol intoxication. But, if there ever was a “good” drunk, that was it. The episode shook me to the core of my being. And I’ve never been drunk since.

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After those three pathetic bedridden days in Germany, I arrived in Cyprus to serve as the dentist to a regiment of more than five hundred soldiers. Of course, the first night started with a welcoming party. A couple of officers thought it would be a good idea to break-in the new “tooth mechanic,” as I was called. Health professionals are not seen as real military personnel, but hard partying was a way to be one of the boys. I was really in no mood to drink that night; the very thought of alcohol turned my stomach. Yet there was another way to be initiated. Someone had hired a woman. I remember the chuckling in the background when she was introduced to me. I knew exactly what the boys meant when they said that it was time for me to be “a good soldier and serve my country.” After offering some lame excuse to go back to the officer’s quarters, I promised to return. While standing alone in my room it hit me hard that this was so very, very wrong. My stomach churned. And I didn’t return. In fact, I’ve never returned to sexual immorality.

Looking back now, that first night on the island was critical. Not being aware of it, my actions made a loud statement—the dentist didn’t drink and run around. Those decisions separated and freed me from a hard-partying crowd of guys who before would have been my best pals. Quite unintentionally, my behavior also released me from my past and opened an opportunity to re-evaluate life. Here I was, twenty-five years of age, and I started asking myself whether all that life had to offer was drinking and women. I felt empty and I felt unclean.

All the stories I had heard about Cyprus were true. It was six months of debauchery. There was excessive drinking everywhere. But what troubled me the most was seeing men with a wife (some pregnant) and children back in Canada taking advantage of Cypriot women. Canadian soldiers were viewed as a windfall to a comfortable life back in North America. The men knew it, and they used it. I was especially disturbed watching some who were the age of my father involved with women younger than me. That troubled me to no end. The evil was palpable. Yet amidst the infidelities, a light shone that I will never forget. There was an officer who would stand in line for hours almost every night at the door to the ham radio in order to speak with his wife for only five minutes, the limit of time we were allotted. He was a quiet guy. I am not sure if he was religious. But I knew two things: what he was doing was right, and I wanted to be like him. Living righteously was once again beckoning me.

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I became a Christian during the Cyprus tour through reading the gospel of John. I cannot remember putting an old King James Version of the Bible in my pack when leaving Canada, nor do I recall exactly when or why I started reading Scripture. I just did. The grace of God and the mystery of a mother's prayers were undoubtedly factors. At the beginning of the tour I distinctly remember feeling dirty, but as I embraced the message of Jesus in John's gospel, I started to have a sense of cleansing. There were no visions, angels, or major crises in my life. I simply yearned for holiness. And as I read my Bible, I experienced filth being washed away from inside of me. If a conversion moment has to be chosen, it was Good Friday. Only about half a dozen soldiers showed up for the chapel service. It was there that the meaning of the Crucifixion fully gripped me—Jesus died for my sins. I began to weep during the Scripture reading and continued for the rest of the service. Distressed by my tears, a chaplain walked me back to the quarters in the hope of comforting me. He asked if there were problems with work or back at home with a girlfriend or my family. I said “no” to all of his questions and kept repeating, “Jesus died for my sins.” The padre had no idea what had just occurred in his chapel . . . the power of the Gospel message had transcended its incidental messenger.

I soon sent a postcard to my mother sharing the good news. On the front of it was written: “The people living in darkness have seen a great light; on those living in the land of the shadow of death a light has dawned” (Matt 4:16). On the back was a request to send me a Bible in *normal English*! My conversion was quickly followed by an intense desire to know more about Christianity. Mom sent a modern translation of Scripture along with a number of introductory books on faith. But the most significant Christian book in my growing collection was one that I found while on holiday in Israel. I walked into a dingy little bookstore in Tel Aviv, and near the back in a dark and dusty corner was Duane Gish's famed *Evolution: The Fossils Say NO!* (1972). I remembered exactly who Gish was, and how could I interpret finding his book in such an unusual place other than God putting it in my hands? Filled with excitement, I went directly to the beach and read it in one afternoon. Gish convinced me that a massive conspiracy was happening in the scientific community. There was no evidence for evolution, and this fact was being held from the public. Still trapped in the origins dichotomy, I flipped sides once more.

The Cyprus tour changed my life forever. How do I sum up my conversion to Christianity? When I left Canada to serve as a peacekeeper,

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I was spiritually empty and so intoxicated with alcoholic spirits that I hardly remember crossing the Atlantic; but six months later I returned home filled by the Holy Spirit and the peace of Jesus. Indeed, I had been born again, a new creation in Christ.

THE MAKING AND CALLING OF A YOUNG EARTH CREATIONIST

After Cyprus, I was posted to the Canadian Armed Forces Base in Calgary, Alberta. Spiritual life up to that point had been for the most part in my room with a Bible. As a new Christian I did not understand the importance of fellowship with other believers. Then one morning in the officers club, I met a medical student who invited me to a Sunday service. It was at a large Christian Missionary Alliance Church. Being raised as a Roman Catholic, the experience of meeting evangelical Protestants was quite a “culture” shock. But that soon passed and I was blessed by the preaching of a wonderful senior pastor. His love for the Word of God impacted me deeply, and today it continues to shape both my personal life and professional practice as a theologian. This church also provided a large community of young adults. It was so refreshing to be around people my own age who were not interested in the pagan lifestyle I had previously been part of. In fact, I even discovered women for the first time in my life (ain’t that amazing!?!). And they have become some of my very best friends.

I had found a spiritual home that focused on Jesus, the Bible, and living for God. Of course, being an evangelical church, the view of origins espoused by most of the members was young earth creation. This aligned well with my growing interest in Duane Gish and creation science. But more importantly, this view of origins was consistent with my reading and experience of Scripture. During the Cyprus tour, I had read the events in the gospel of John literally and this led to my conversion to Christianity. And now I was enjoying the fruits of a holy lifestyle, which was also built on the plain meaning of Scripture. Moreover, I was educated as a dentist and had never taken a university-level English course. I had little to no understanding of literature, let alone ancient literary works. And I was oblivious to the possibility that the Bible featured an ancient origins account inspired by the Holy Spirit. Therefore, it is no surprise that I was a strict literalist and a young earth creationist.

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My conversion to Christianity was not only a spiritual rebirth but also an intellectual revolution. I became a voracious reader after Cyprus. Still entrenched in the origins dichotomy, I reasoned that young earth creation was the key to building a Christian worldview. I read and nearly memorized the standard books, including John Whitcomb and Henry Morris' *The Genesis Flood* (1961) and the latter's *Scientific Creationism* (1974). In the summer of 1981, I attended a week-long workshop offered by the Institute for Creation Research. It was there that I met Canada's leading young earth creationist, Margaret Helder, who has a PhD in botany. She had a remarkable impact on me and continued to encourage me well after the conference. The following winter I attended an origins debate between Gish and a scientist at the University of Calgary. The latter splattered a series of sarcastic and insulting remarks, while the former, in a professional manner, focused on scientific problems with evolution. Seeing Gish stand up in a major university and win a debate left me completely convinced of the truthfulness of creation science. A fire to defend young earth creation was beginning to burn in my soul.

I took my first public step into the origins debate in late 1981. Margaret Helder was the co-editor of *Creation Science Dialogue* and she encouraged me to contribute a brief article defending my views. Entitled "Philosophy vs. Science," I wrote:

Whether we care to concede it or not we are born into a society that upholds a philosophical or worldview. I was the tragic end product of the current secular humanism that permeates the western hemisphere.

Formally educated in the health sciences, I firmly understood that I was indeed a marvelous biomolecular machine, morally free, in an eternal expanding and contracting cosmos. Neo-Darwinian and Skinnerian theories explained physically and psychologically what I was. J.P. Sartre and Albert Camus told me not to worry about such weighty matters; after all, everything is absurd. Rather, one should live for the moment. Fluctuating between atheism and agnosticism my normal deportment was definitely marked by materialism and hedonism.

In quest for comic relief in 1977 I decided to attend an evolution vs. creation debate on campus. I walked away laughing at the Bible thumper, but deep inside I realized that my foundation was under attack; not my theology, but with my own armamentarium: science. After intensive personal research, the facts clearly showed the creation model to be superior in light of the data concerning

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origins. A review of the development of theology and philosophy in this past century also provided conclusive evidence of the powerful impact of this apparently innocuous doctrine.

I challenge anyone who takes pride in their objectivity to entertain seriously scientific creationism. It may very well be the most important study of your life.

Clearly, I was trapped in the origins dichotomy. But more subtly, the tangibility of science was psychologically vital for me, as it was in my first years of the university. Secular science had previously been the foundation of my atheism and immorality, now creation science undergirded my religious worldview. No doubt about it, I was reacting to my godless past, but I was still assuming that the scientific method was a central route to the Truth. Looking back now, I was in many ways a Christian “positivist.”

Despite an increasing focus on the issue of origins, I knew that Jesus was the center of my belief. I sensed His presence everyday. As a maturing Christian, I could feel His hand reshaping attitudes and behaviors. It was not long before I began to wrestle with the notion of God’s will. Did He really call people to do certain tasks? This issue was important because I was nearing the end of my military contract. The Canadian Armed Forces offered some fabulous opportunities. I was being allowed to assist a maxillofacial surgeon in the hospital in order to see if this dental specialty interested me. As well, there was a possibility of studying medicine at the University of Toronto while being paid my full dentist’s salary. I loved the military. It was familiar and it was secure.

I suspect every Christian at some point grapples with God’s will for his or her life. For me this issue became an all out war in my soul. I was completely convinced that evolution was the root of unbelief in our secular culture. Having seen Duane Gish dismantle atheists in debates at two universities made it obvious to me that this was critical work for our generation. I began to sense a calling to become a creation scientist. But it was a terrifying thought. To leave the comfort of my life and a very enjoyable career was completely against my character. I had always done things that were safe. Just about every day for two years I fluctuated violently between staying in the military and leaving in order to attack evolution. I became chronically depressed. Yet I can remember a woman in my church telling me with regard to God’s will, “You just know when you are on your knees.” Indeed, I knew what it was. But when I got up from my knees, did I follow His calling? No.

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In September 1983 I entered medical school in Toronto. On my first Sunday before classes I went to the university to get a feel for my new surroundings. At the doors of the school a man wearing a psychedelic t-shirt and platform shoes was preaching the Gospel. He was a bit of a frightening sight. There was no one else around him, but he kept proclaiming the Good News. As I passed, he challenged me, "Do you know Jesus?" A bit insulted, I wanted to say, "Hey buddy, I've read over 400 theology books." And again he asked, "Do you know Jesus?" This time I felt convicted, and I also realized how silly my response would have been. He questioned me a third time as I walked away. I didn't respond. Then I came to a wall at the front of the medical school that had been spray painted with huge black letters spelling the words "Conditioned Response." This is a term used in psychology for the training of rats in experiments. The preaching and the vandalism converged in my mind. I was running away from Jesus like a rat conditioned to follow the most secure path in the maze of life. Somebody was trying to get through to me. And I knew Who it was.

On the first day of school, at the welcoming lecture, I sat by myself in a corner of a large auditorium. A woman came and seated herself next me. It was a bit uncomfortable because I did not know her and there were rows of free seats around me. She noticed a military crest on my briefcase, and in a foreign accent asked if I was in the armed forces. I replied, "Yes." She then said that she and her country were so grateful to the Canadian military for the peace that was brought into their lives. I immediately got an uneasy inkling. "Where is your home?" I asked. She answered, "Cyprus." This coincidence was just too much. It shook me. Jesus was reminding me of His peace that I had first tasted on that faraway island. But now there was no peace in my life despite the fact I was going to church and enjoying a fabulous career. I knew what I had to do. In fact, I had known for a long time but didn't have the guts to do it.

After the third day of school, I went home and sat in my recliner. And I sat there hardly moving well into the wee hours of the next morning. I was in wicked turmoil. I looked at all the theology books I had read; and I also saw an emergency medicine text, in which I had lost interest at page 173. From a purely logical perspective, it was obvious what my passion was. But the deeper issue was whether or not I was going to follow the sense of being called by God. Would I leave the comfort and security of my "Ur of the Chaldeans" (Gen 12:1; Heb 11:8) not knowing exactly where I was going? Weeping and depressed out of my mind, my stomach

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churned and churned until I rushed to the bathroom to throw up. I had hardly eaten anything the last couple of days and all I vomited were stomach fluids. Right there, with my head in a toilet bowl, I made one of the biggest decisions of my life. Three days after entering medical school, I quit. I also handed in a request to be released from the military.

OPENING THE BOOK OF GOD'S WORDS: HERMENEUTICS IS A CONTACT SPORT

In order to become a good creation scientist, I reasoned that I needed training in both theology and science. I decided to begin graduate school at Regent College in Vancouver, British Columbia, where I would focus on the early chapters of Genesis. This would be followed by studies at the Institute of Creation Research in El Cajon, California. I wrote Henry Morris and Duane Gish informing them of my plan. Gish replied and cautioned me to beware of some liberal theology on origins at Regent. But he looked forward to seeing me in the future and my joining him in the battle against evolution and secular humanism.

Regent College is one of the best evangelical graduate schools of theology in the world. Its professors include some of the most renowned Christian thinkers of the day, like the great J. I. Packer. The college achieves an amazing balance between committed spirituality and high-level academics. There was an ever-present sense of holiness among both the students and staff. I often remember professors beginning a class in prayer and wanting to open my eyes to write it down because it was so wonderful. At the same time, the school pushed me harder academically than any university I have ever attended. Students called to an academic career were more than prepared for the best PhD programs. Indeed, Regent offered an education that taught me to do scholarship not for the sake of scholarship, but for God's glory.

Of course, I had an agenda. On registration day, 30 August 1984, I outlined a battle plan in my diary and it concluded with the promise "to declare absolute and pure hell on the 'theory' of evolution." It was only a few weeks into the program when evidence for Gish's concerns about Regent surfaced. In a lecture to about one hundred students, Packer stated that the first chapters of the Bible "were obviously written in picture language." I wanted to confront him after class, but about half the students stormed the lectern ahead of me. Most were young earth creationists. I

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had been aware of liberal theology and had quickly developed distaste for liberal Christians. In my mind, they didn't take the Bible seriously because they didn't think it was literally true. Liberals were "theistic evolutionists" and I saw this view of origins as a compromise for people with a weak faith who didn't really trust Jesus. But hearing Packer's position on Genesis shook me. His best-selling book *Knowing God* (1973) had brought so many people to Christ. And here he was openly claiming that Genesis began with "picture language." His words seeded an unsettling tension in my mind that would take the next couple of years to come to terms with.

The pounding on my literalist hermeneutic continued in January with a three-week course on science and theology. It was a classic confrontation that has occurred in seminaries everywhere between "conservative students who took God at His Word" and "liberal professors who did not believe in the literal Word of God." A universe millions of years old was presented as an uncontested fact and evolution as the likely process for the origin of life. Students countered with literal readings of Scripture and young earth creationist arguments. It only took about thirty minutes into the course for Loren Wilkinson, an interdisciplinary scholar and the professor who lead the class, to call for a "prayer time-out" in order to cool things off. And there were a lot of these over the next three weeks. I'll confess my behavior was the worst of everyone in the room. I repeatedly used the Bible as a battle-axe.

To Wilkinson's credit, he absorbed my cheap shots. But this is not to say that he wasn't committed to his beliefs or that he wouldn't be assertive. He could be tough, yet he was always respectful. Near the end of the course I cornered him in a narrow hallway and asked him directly what he thought about young earth creation. Tersely he stated, "It is error." I can still remember how the word "error" rattled my soul. At that point in my Regent education, I had taken a philosophy course from him and had a great respect for his knowledge and integrity (In fact, he's my intellectual hero today). That moment in the hallway was powerful. And in his closing remarks to the class, he looked at me directly and said, "I must confess that I do have a serious concern, Denis. If you should ever give up your belief in creation science, would you then also give up your faith in Christ?" Ouch! That wasn't Wilkinson talking. The Holy Spirit was flowing through his words and casting a light on the foundations of my Christianity. I stammered, stumbled, and really didn't answer. Deep in

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my heart I knew that my relationship with Jesus was more important than any position on origins.

I walked out of this science and theology course still a young earth creationist. But it certainly opened my mind to the possibility that my reading of the Bible was in error. I began to focus more on Gen 1–11, and in my final year at Regent I wrote a masters thesis on Gen 6:1–4, the sons of God and daughters of men episode. Looking back now, there isn't a better passage in these opening chapters of Scripture to introduce a strict literalist to hermeneutics. I cannot help but suspect some divine providentialism. After writing 214 pages on these 4 verses, I didn't know what to make of this passage. Yet it was a valuable experience. I began to learn how to live with ambiguity. This was quite novel for someone like me who was trained in the sciences and saw everything in black-and-white. My positivistic tendencies were being challenged by biblical hermeneutics.

Genesis 6:1–4 also provided some specific lessons. I was amazed to discover the wide range of interpretive approaches that Christians throughout time had used to deal with this passage. Simple logic indicated that they could not all be correct. For that matter, the majority would be wrong and it would mean that some of the most important theologians in history had misinterpreted these verses. This brought perspective. I realized that Christian faith was not dependent on the interpretation of one four-verse passage in Gen 1–11. But the greatest lesson from the thesis was in understanding that biblical interpretation begins with a commitment to the actual words of Scripture. That is, the meaning of words is critical to the meaning of a passage. It was clear that the "sons of God" were celestial beings and the "daughters of men" were human beings. It didn't make any biological sense to me how they could have procreated. But this was *my* problem, not the Bible's. Scripture stated that heavenly creatures and women gave birth to giants and heroes, and my task as a theologian was to submit to the Words of God. Of course, at that time I was missing a vital category—the 1-seed theory—and this is why I didn't fully understand the passage. Yet, I was completely committed and in submission to the inspired words describing a very surreal episode. This naturally led to the thought: could it be that the Holy Spirit had used a myth in the revelatory process? A shudder reverberated through my soul. But there was more to come.

Occasionally, we experience a defining moment that changes the course of our life. One occurred when I was writing my last paper at Regent

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College. I had learned in an earlier class that there were grammatical problems in translating Gen 1:1–3.⁴ Being interested in the origins debate, it was obvious that I needed to have some idea of the issues. I had read these verses dozens of times before, and like everyone else, assumed that they referred to the creation of space, time, and matter. I had actually scribbled these terms in the margins of my Bible. But as my research progressed, a biblical fact began to emerge. Despite the grammatical difficulties, Gen 1:2 was definitely the opening scene of the Gen 1 creation account. A dark watery earth was already in place with no mention of when it was created. The implication was devastating for my young earth creationist position. I lost the temporal marker from which to date the earth. Shockingly, the Bible itself did not reveal when the earth came into existence.

I remember the day like it was yesterday. It was a beautiful and fresh spring morning in Vancouver with the sun flooding into the library. I was sitting at my favorite desk where I had labored daily for three years. Genesis 1:2 exploded and shattered my calling to be a creation scientist. For a brief moment, I felt deeply alienated, even betrayed. I had left an amazing military career to come to Regent and arm myself with Scripture in order to defend the inerrant and infallible biblical record of how God had created the world in six literal days. My first thought was “to hell with this. I’ll get up from my desk, leave my books and everything I have in Vancouver, jump in my car, and drive home to Edmonton.” I was only this paper and two exams away from finishing both Master of Divinity and Master of Christian Studies degrees. But what was the point? The vision had died.

However, this intensely dark and terrifying moment lasted no more than twenty to thirty seconds. The peace and love of the Holy Spirit quickly welled up inside of me and assured me that He had indeed called me to Regent College. My duty was to follow Him and to be the best student I could be. And yes, He had called me to focus on origins, but He was in control of my education. In calling me, the Lord had accommodated to my intellectual categories—a young earth creationist trapped in the origins dichotomy. This is where my mindset was at the time; and by grace He came down to my level. Through graduate education and particularly this paper, God freed me and made me fully aware that *how* He created His universe is ultimately incidental to the belief *that* He is the Creator. I was a creationist because I believed in a Creator. I could see it daily in the splendor of the world declaring His glory, like in that sparkling morning

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in Vancouver. And I could sense His presence in the love I felt in my heart at that critical moment in my walk with Him. The issue of God's creative process simply paled compared to these powerful mystical experiences.

In no time, I returned to my calling as a student and I finished what became the best paper I ever wrote at Regent. I even added a post-script that summarized my shift in understanding origins.

I entered Regent College in September 1984 as a fire-breathing, dragon-slaying, card-carrying young earth creationist. It seems appropriate, nay, maybe even ordained that my last paper after three years at this college is this one. How I have fallen from grace!

My parting thoughts on this issue of origins are now in a suspended state. I do not regress to my earlier atheism where, "In the beginning hydrogen . . ." The idea of molecules into people defies all known biochemical laws. The sociobiological implications of the naked ape makes me wonder how man could be the apple of God's eye if humanity came about through evolution. Yet now, as a student of the Old Testament, I am beginning to question the "narrative-ness" of the opening chapters of the Bible. There seem to exist masterfully constructed, almost poetic, literary structures in this section of God's Word. It may well be that, through the creation, the fall, the sons of God episode, the flood, and the tower of Babel, God has given us stories which bear significant truths. In other words, the first part of Genesis may well be mythopoetry.

It's funny, you know. I once met a theological hockey "expert" who told me that examining evolution in light of the Bible was "an irrelevant abstraction." He may be right.

When I read this post-script today there are a number of features that strike me. By the spring of 1987 I no longer accepted the "narrative-ness" or strict literal interpretation of Gen 1–11, but this did not in any way undermine my belief in the Messages of Faith in these chapters. My love for Jesus and the Bible had not changed one bit. This is the power of God's Word—it transcends our hermeneutical abilities or lack thereof.

At this time I also "suspended" my views on origins. I realized that it is perfectly acceptable for Christians not to understand how God created the world. Knowing Jesus does not require knowledge of the details of origins, but instead it involves confessing one's sinfulness and experiencing the forgiveness of sins offered through the Cross. Yet despite this claim of a suspension, I was still in the grip of evangelical anti-evolutionary arguments as evident by the comment that "the idea of molecules into

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people defies all known biochemical laws.” Of course, I was in no position to make such a statement. Goodness gracious, I was a dentist, not a biochemist! My anti-evolutionism was also supported by the problem of justifying how a loving God could create humanity through a wasteful and vicious evolutionary process. Remarkably, I never took a class on theodicy at Regent. But this is understandable. I had only stepped away from young earth creation in the last months of the program. Up to that point, explaining the existence of pain and death was simple—Adam bit into the apple, and suffering and death were then launched upon the world. Looking back now, I did have a view of origins at that time. I held a hazy and undefined form of progressive creation. I was not aware of this origins category, and I was oblivious to the possibility that there was a conservative Christian approach to evolution.

Finally, the reference to a “theological hockey ‘expert’ ” in the post-script was to my thesis supervisor and reader of this last paper at Regent. Dr. William Dumbrell was an Old Testament scholar from Australia and while in Canada he followed ice hockey. Knowing well my passion for my national sport, he rarely missed the opportunity to announce any loss by my beloved Edmonton Oilers. But more importantly, Dumbrell always frustrated me because he would not engage me on the origins debate, calling the issue an “irrelevant abstraction.” And today, I know he’s right.

Regent College was the most formative academic and spiritual experience of my life. Ironically, the evidence in Scripture undermined my vision of becoming a creation scientist. After three years of focusing on Gen 1–11, I concluded that young earth creation is un-biblical.

The sense of calling to continue my studies after Regent was clear, and this time there was no running away from God. No fluctuating, no depression, and no doubt. When on my knees, I knew exactly where I had to be. I also realized that it was time to leave the safety of an academic “cocoon of faith.” In the fall of 1987, I entered a PhD program in theology specializing in science and religion at the Toronto School of Theology in the University of Toronto. The school is a consortium of seven colleges from different Christian denominations and it offers a rich and wide exposure to modern theological thought. I studied under professors who were evangelical Protestants, Roman Catholics, liberal Christians, deists, agnostics, and even atheists. Though I certainly could appreciate the arguments that skeptics of religious belief offered, there was never a moment in which I doubted my Christian faith. Actually, being exposed to

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unbelief and liberal theology only made my faith stronger because I saw in these belief systems anger, irrationality, and nauseating self-sufficiency. In many ways, this experience was similar to my training in the health sciences. Once I had learned the mechanisms of disease and pathology, I gained a greater appreciation for healthy anatomy and physiology.

I recognized that if I wanted to deal with the origins debate then there were issues other than Gen 1–11 that had to be explored. I headed toward historical studies in order to investigate the reactions of the first generation of evangelical scholars who encountered Darwin's theory of evolution. The research was quite a revelation. Many of these conservative Protestants embraced biological evolution and argued that it was a teleological process ordained and sustained by God.⁵ Not only this, but there was little evidence that any of the leading evangelical academics at that time were young earth creationists. By the mid-1800s, they had realized that the age of the earth was millions of years old. For that matter, the spearhead document of the modern Christian fundamentalist movement, *The Fundamentals* (1910–1915), included two contributions by evangelical scholars who not only accepted an old earth, but also evolutionary change under the guidance of God.⁶

In studying these conservative Christians who first came to terms with evolution, I noted one common assumption and two arguments that often appeared in their writings. First, they adopted a Two Divine Books model. They lived the spiritual messages in the Book of God's Words and they practiced the scientific method in the Book of God's Works. Warfare did not mark their understanding of the relationship between science and religion. Second, these evangelical scholars acknowledged intelligent design in nature and extended it to include evolutionary processes. They saw the reflection of God's mind not only in the details of the world but at an overarching level across the eons of time. Finally, this first generation of evangelical evolutionists often compared the process of evolution to the mechanisms of embryology that fashion every person in their mother's womb. They argued that in both cases, humans were created by natural laws that were ordained and sustained by God.

I also researched Darwin's religious beliefs for my PhD thesis. It was another eye-opening experience that burst popular myths. In reading his diaries, notebooks, personal letters, and professional publications I gained a respect for his honesty and, in particular, his theological struggles. An unrelenting issue throughout his life was his experience with design in

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nature. As a scientist, Darwin read the Divine Book of Works and was impacted by the non-verbal revelation pouring forth from the creation. Even in the last year of his life, he confessed that design in nature “often comes over me with overwhelming force.”⁷ I was amazed by this aspect of Darwin’s story. If evolution undermined the belief in intelligent design, as most Christians assume today, then one would expect the father of evolutionary theory to dismiss it completely. But he didn’t. In my mind, Darwin is solid evidence that the heavens do indeed declare the glory of God!

Graduate school in Toronto offered valuable lessons from history that further opened the door to the possibility of a Christian approach to evolution. However, I was still a committed anti-evolutionist. It was now evident to me that the battle over origins would have to be fought in the scientific arena. I had a background in biology and dentistry, and I knew that teeth and jaws were critical in defending evolution. What better way would there be to attack this theory than to use some of the best-purported evidence against it? While on my knees, the calling to continue my education was clear.

OPENING THE BOOK OF GOD’S WORKS: FLYING UNDER THE RADAR AND SHOCKED AGAIN

I defended my PhD in theology on a Monday in early September 1991. The next day I flew home to Edmonton and on Wednesday began a PhD program studying biology, specializing in dental development and evolution, at the University of Alberta. No doubt about it, that’s a little obsessive (and I wonder why I’m not married!). Though my training in theology had freed me from most of my scientific concordism and had introduced me to categories for a Christian perspective on evolution, I still embraced the young earth creationist vision of destroying evolutionary biology. I was now going undercover and once my doctoral program was completed, I would then declare war on evolution and the scientific establishment.

Of course, the PhD would be done with integrity. It was a matter of finding a project that suited both my supervisor and me. I had the experience in Toronto of working with a director who was an atheist, and there were topics we could agree on. My personal agenda was no one’s business but mine. Hardly anyone knew why I was pursuing a second doctoral degree. If anyone asked, I just said that I was interested in teeth; after all, I was a dentist. I saw myself as a spy behind enemy lines collecting

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intelligence for an impending battle. In the margins of scientific papers and textbooks, I had a cryptic code to indicate problems with evolution. Anyone reading the marginalia would have no idea what it meant, or what I was planning in the future.

Safely hidden away in my apartment, I also had a notebook outlining the specific problems with dental evolution. Inspired by Charles Darwin's "Notebooks on Transmutation" in the late 1830s, it was entitled "Notebook on Immutability." As the first entry reveals, I knew that this was a rather grandiose title and I mocked myself with regard to it.

A humble title, eh? There may be a teleological evolution, but the fact remains species do *not* transmutate on their own (i.e., without God's direct intervention); therefore, they are indeed immutable in this sense.⁸

The anti-evolutionary bravado of my young earth creationist days remained well intact. Here I was at the *beginning* of my research and I had already concluded "the *fact* remains" that life could not evolve on its own! But more interestingly, it is evident in this passage that I had yet to grasp fully the notion of teleological evolution. My idea of such a process involved God intervening and tinkering with living organisms through the eons of time, however slightly. In other words, I still embraced the God-of-the-gaps and held a modified form of progressive creation.

Of course, I could not stop thinking about theology. Near the beginning of my PhD in biology I also began a notebook on hermeneutical issues related to origins. Entitled "Notes on Genesis," the opening entry set the foundation of my interpretive approach.

Genesis 1 is poetic and reflects ancient science. This science is the key. It's relative and it takes the rap. Ancient categories shape the science.

Reference to taking "the rap" meant that conflicts between Scripture and science were resolvable by acknowledging that the Bible featured an ancient science. My claim that this science is "relative" was another way of saying that it was incidental. But I still wrestled with concordist tendencies. Even though I had completely rejected the strict literal concordism of young earth creation, I briefly considered a progressive creationist approach to Gen 1. I asked myself in this notebook:

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Is immutability to be gleaned from Gen 1? Is creation punctiliar or continuous? Does Gen 1 allow for different creative periods? Can we glean a temporal element from Gen 1? Again, how far??? Or can I even ask the question?!?

I answered the last question with “probably not.” In a later entry, I also suspected the implied immutability in Gen 1 was a reflection of an “ancient Near Eastern taxonomy.” My coming to terms with evolution also included dealing with concordist remnants still echoing in my hermeneutics. This was not a quick process.

To be sure, I was on a crusade at the beginning of my biology PhD. Yet I was not so obsessed with attacking evolution that I was blinded from the possibility that it could be God’s creative method. In the last year of my training in Toronto, I had seen the dentition of a chimpanzee for the first time (Appendix 10 Fig 4A). It was a gripping moment. At that point I had practiced dentistry for thirteen years. In restoring decayed and broken teeth, dentists shape fillings to the original anatomy of the tooth. As I looked at the premolars and molars of a chimp, it hit me like a ton of bricks that I had been carving these very grooves and cusps (the pointed projections) in the teeth of my patients for years. I was aware that these primates had about 99% of the same genes as us, but this experience of examining their dentition was firsthand and personal. Chimp teeth were nearly identical to human teeth. The implication was painfully obvious . . . these creatures could easily be seen as our evolutionary cousins.

The course work for my biology PhD program began with an extensive study of the dentitions of animals that are alive today. It was an incredible exercise. Teeth are beautiful! (I know, only a dentist would say this.) This study led to my writing a 97-page survey on the dentitions of mammals. It became quite clear that there was a relationship between the *form* of teeth and their *function*. Fig 9-1 offers a few examples that struck me. The gopher has huge incisors that are used for gnawing and digging. As the cutting edge wears down, more tooth erupts from the jaw in order to maintain the level of the bite. The back teeth of the fruit bat have flattened areas that are ideally suited for crushing ripe fruit. In contrast, the number and size of these teeth are severely reduced in the vampire bat, which basically has a liquid diet—blood. Its upper jaw features massive front teeth with very sharp cutting edges that are used to lacerate unsuspecting animals.

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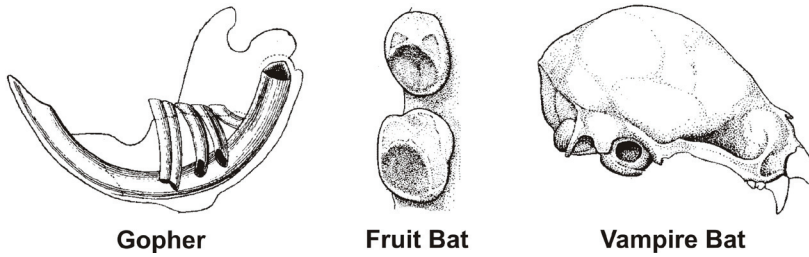


Fig 9-1. Dental Form and Function. The gopher dwells mostly underground and its dentition is worn down by burrowing and eating an abrasive diet. The root tips are open-ended and allow for tooth eruption throughout life. The crushing regions on the upper molar teeth of a fruit bat appear as darken areas. The molars in a vampire bat are rudimentary and basically non-functional.

These scientific facts quickly led to thoughts about their theological implications. In my “Notebook on Immutability” I wrote:

There seems to be little doubt that there is dental specialization.

There are certain teeth for certain tasks. But the issue is this:

- (1) Did one type of dentition evolve into another dentition?
- (2) Or is it that animals have been created *de novo* and placed in their proper ecological niche with the proper dentition?

The second option was clearly a progressive creationist view of the origins of dentitions. Yet I was open to the idea that evolution accounted for amazing anatomical and functional variation in teeth as evident in the first option. At the time I didn’t know how this could have occurred, but in my mind it was a reasonable possibility.

A more challenging issue arose with the origin of flesh-slashing teeth like those of tigers, sharks, and vampire bats.⁹ In my “Notebook on Genesis” I pondered:

If there was no death in early Genesis, then all the amazing killer teeth would have had to come in with sin. That is, they would have been created after the fall. Maybe this is what the fig leaf symbolizes. You’re such a fundie!!!

In other words, if living organisms before the fall were sustained by consuming only plants and fruits as stated in Gen 1 and 2, then there was no reason for God to have originally created animals with teeth intended to cut and puncture flesh, since these are hardly useful for vegetarians.

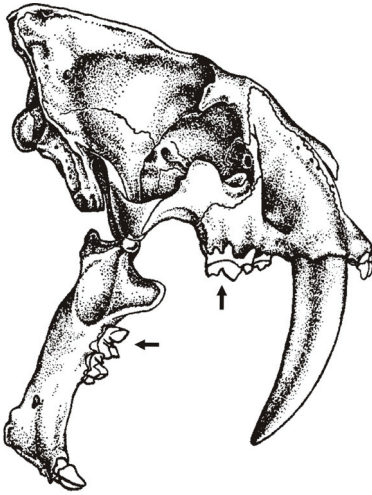


Fig 9-2. Saber-Toothed Tiger. The canines of the upper jaw (saber-teeth) are ideally suited for puncturing and slashing prey to death. The carnassials are specialized molars that are blade-like teeth used for slicing flesh of victims (arrows). Saber-toothed tigers appeared 1.6 million years ago, well before the origin of humans.

Thus, the vicious 5-inch canines in sabre-tooth tigers (Fig 9-2) would have been created after Adam and Eve had sinned. I even proposed a concordist interpretation of Gen 3 suggesting that the fig leaf coverings made by the first couple were symbolic of the new physical conditions in the world after sin had entered. That is, after the cosmic fall, God graciously equipped certain animals with a carnivorous dentition; similar to the way He took care of the first humans and clothed them. Yet I quickly mocked myself realizing that my concordism smacked of a literalist fundamentalist hermeneutic. I was starting to think about the sin-death problem from an evolutionary perspective, and I didn't have a clue how to solve it. But more importantly, I sensed no panic whatsoever for not having an explanation. There was a peace in my heart and mind. God was in control of my education and I trusted that the answer to this issue would arrive in its proper time.

Fossils answered my questions about the origin of different dentitions. This was the next major study in my course work. Robert C. Carroll's magnificently illustrated *Vertebrate Paleontology and Evolution* (1988) proved to be an invaluable resource. I began to see a definite pattern across the geological record: (1) the basic materials for teeth first arose as body armor on jawless fish, (2) the jaws of fish then became functional and simple teeth appeared, and (3) with the arrival of land animals, dentitions became specialized and passed through numerous transitional stages.

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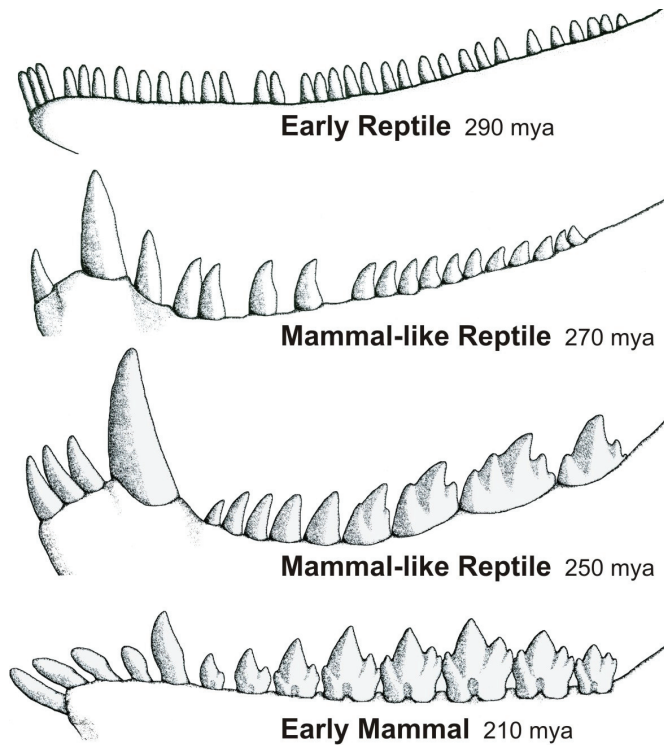


Fig 9-3. Reptile-to-Mammal Dental Evolution. Transitional stages and a pattern from simple-to-complex dentitions are evident in lower jaws. mya: million years ago. Redrawn by Braden Barr.

Fig 9-3 offers some examples. Most reptiles have simple, cone-shaped, single-rooted teeth that are all about the same size. These function well for grasping and killing prey. As reptiles evolved into mammals, teeth began to lengthen at the corner of the mouth, creating a specialized puncturing weapon (the canine) and making these organisms more proficient killers. Later mammal-like reptiles featured transitional dentitions with a reduction in the number of cheek teeth and the beginning of pointed cusps. Finally, mammals arose with distinct incisors, canines, premolars, and molars. The back teeth were now multi-rooted, wider from front-to-back, and had cusps which interlocked with those of the opposing jaw. This last dental feature increased the proficiency of chewing and allowed the animal to draw more nutrients from prey.

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It was this type of scientific evidence that led me in a notebook entry to ask myself directly:

Am I headed in an evolutionary direction? I must admit I don't feel so intimidated with evolution as when I was a young earth creationist.

Indeed, seeing the data firsthand in the Book of God's Works was a freeing experience. I recognized that this was the Lord's world and I did not need to fear the amazing discoveries that science offered. My theological speculations also continued during this period. In another entry, I wrote:

Such a *subtleness* about God. He used an ancient text and a carpenter's Son to reveal Himself. Same goes for His informing us that He created the world. He used mythopoetry.

Clearly, an Incarnational approach to the first chapters of Genesis was beginning to crystalize in my mind. I was seeing parallels between Jesus who came as a humble human servant and Scripture that featured humble human literary categories. Yet in both cases, the powerful Messages of Faith transcended the vessels that delivered them.

In the summer of 1994 I attended my first science-religion conferences. The C. S. Lewis Institute was at Cambridge University in England and the theme focused on theological and scientific issues related to creation. It was a who's who of the modern origins debate. There were anti-evolutionists of the newly emerging Intelligent Design Theory (Phillip Johnson, Michael Behe, William Dembski, Stephen Meyer, Paul Nelson), liberal Christians (John Polkinghorne, Arthur Peacocke) and evolutionary creationists (Howard Van Till, Keith Miller). I resonated very much with the ID theorists. They were terrific guys, and I even prayed with a few of them that evolution would be overturned. Two weeks later, I traveled to Minneapolis and attended the annual conference of the American Scientific Affiliation, a science-religion organization made up of mostly evangelical Christians trained in various scientific disciplines. It was there I saw biochemist Terry Gray of Calvin College debate Michael Behe on molecular evolution. These summer conferences were eye-openers. Though I was still an anti-evolutionist at the time, there was something that was starting to nag me.

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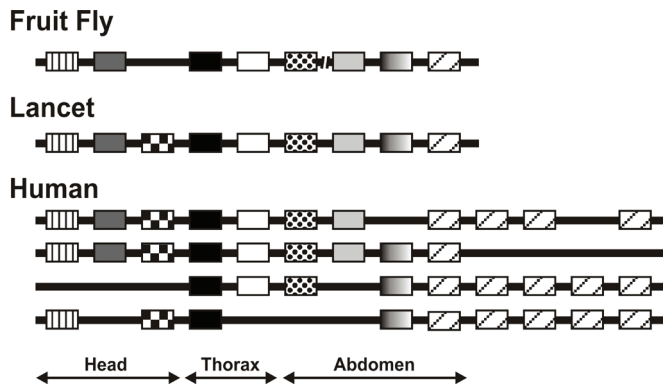


Fig 9-4. Body Plan Genes. Animals share a series of genes that instruct the embryological development of a basic head-to-tail pattern. Termed “*Hox* genes,” these appear as “clusters” on a chromosome/s in an order that reflects essentially an anterior-to-posterior body plan. Simple organisms like insects (fruit fly) have only 1 cluster. This is also the case with the lancelet (amphioxus), a primitive fish-like creature with no brain and only a nerve cord. It would be similar to the common ancestor of vertebrates (back-boned animals). During vertebrate evolution, the number of *Hox* clusters increased. Copies arose through the duplication of genes and chromosomes, which is a common occurrence in organisms (see Appendix 10 Fig 5). Humans have 4 *Hox* clusters. Genes that are missing between clusters are due to the deletion of genes, which is another well-known genetic process. Amphibians, reptiles, birds and other mammals have similar *Hox* clusters, indicating that land vertebrates descended from a common ancestor with 4 copies of the original body plan gene series.

The popular Christian argument that living organisms were too complex to have evolved gave me an uneasy feeling and left me cold. Behe had recently coined the term “irreducible complexity” to describe components of the cell, and he claimed that these could never have emerged through a gradual evolutionary process. Of course, the anti-evolutionary community quickly embraced his concept. But to say that we don’t know how cells evolved and therefore God had to create them “in one fell swoop” wasn’t cutting it for me anymore.¹⁰ I knew this was a God-of-the-gaps argument. I had used this line of reasoning too many times in the past and now my training in biology was closing many of those gaps in knowledge. Along with my work on tooth anatomy in living and extinct organisms, I was also studying dental embryology. Since about 1985, biological research began focusing on the molecular makeup of cells. An amazing aspect of this work was discovering the incredible concert of finely coordinated biochemical reactions in development from fertilization to birth. As the reflection of intelligent design in embryology

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filled my soul with awe, this scientific evidence became the final piece of the evolutionary puzzle for me.

Briefly stated, living organisms go through embryological development using the same basic set of genetic and molecular processes. Striking evidence that animals and humans are evolutionarily related is found in corresponding genes that determine their underlying body plan (Fig 9-4).¹¹ In other words, as organisms evolved, they passed down the genetic instructions for the general head-body-tail pattern commonly seen today. This is just like in a family in which genes and physical characteristics descend from one generation to the next. Even more interesting, experimental studies reveal that manipulating a single developmental gene or molecule can result in dramatic changes in the anatomy of an organism. This was the key notion that led me to accept evolution. I had certainly seen a *pattern* in teeth and jaws indicative of evolution. Embryology was now offering a *process* to account for these changes. Let me give an example.

The limbs of fish, amphibians, reptiles, birds, and mammals begin as buds at the side of the body. As these grow, similar developmental genes and molecular processes sequentially appear, but they are expressed in differing combinations between animals. Simple experiments placing these molecules in a bud can alter the final number of bones in a limb and change their shapes dramatically (Fig 9-5).¹² Thus, a minor genetic modification in the release of a developmental molecule can result in a major anatomical change. With this mechanism in mind, and considering the fossil record of extinct fish and reptiles, it was easy for me to see how fins evolved into limbs (Fig 9-6).^{*} This developmental evidence also refuted a popular Christian argument against evolution. Since the early 1970s, scientists were acknowledging that the fossil record was not revealing a gradual change in organisms as Darwin had predicted. Of course, anti-evolutionists were quick to use this evidence, as I had once done. We argued that too many genetic changes, all occurring at the same time, would be required to account for the non-gradualistic pattern in the fossils.

* It is important to qualify that in 1994 so-called “fish with fingers” (Fig 9-6B) had yet to be discovered. However, at that time I could envision how the fin of a lobe-finned fish, after minor changes in its developmental mechanisms, could easily evolve into the limb of early amphibians. Since 1994 two species of fish have been found, *Sauripterus* (B) and *Tiktaalik*, filling a gap in the fossil record. They appeared in the geological strata predicted by evolutionary theory. In my mind, this is the most amazing and powerful aspect of evolution. As new evidence is discovered, it always fits the basic theory.

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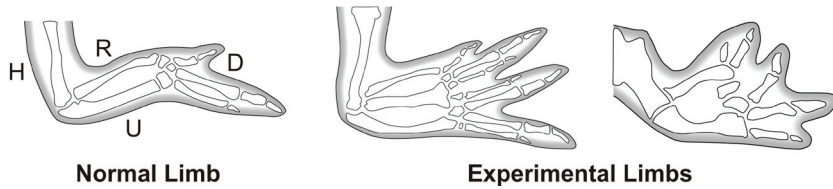


Fig 9-5. Experimental Limbs. The manipulation of genes and molecular processes in the developing upper limb of the chick can produce striking changes in bone anatomy. The normal limb has a humerus (H), an ulna (U), a radius (R), and 3 digits (D). In one experiment, a limb (middle) appeared with 7 chick-like digits and a new bone between the humerus and radius. Another experimental limb (right) developed 5 digits similar in number to most land animals today. Redrawn by Kenneth Kully.

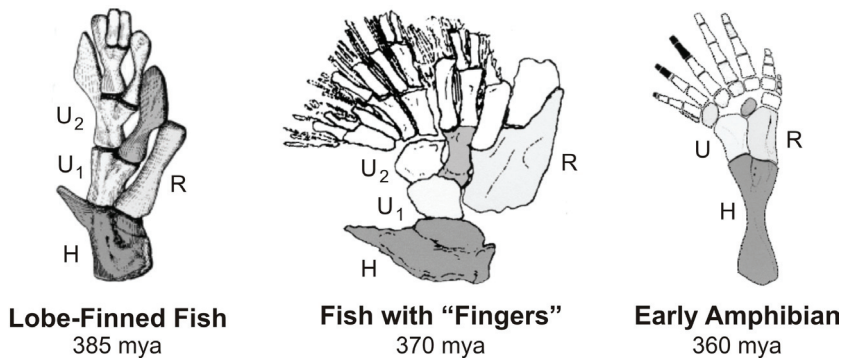


Fig 9-6. Fin-to-Limb Evolution. The fossil record presents a pattern from fish fins to land animal limbs as seen in a lobe-finned fish with limb-like bones, a fish with 8 finger-like bones, and an early amphibian with 8 digits. Notably, these two fish had two ulnar bones which later fused into one as seen in the amphibian. The first land animals often had 7–8 digits, reflecting their origin from “fingered” fish. These were reduced after 300 mya to the 5 digits commonly found today. Humerus (H), radius (R), ulna (U), digits (D), millions of years ago (mya).

The chance of this happening through natural processes was highly unlikely, if not impossible. However, our argument assumed a pre-1950s understanding of genetics where *one gene* was responsible for *one trait*. Modern embryological science began to demonstrate that *concentrations* and *combinations* of gene products in the developing limb provide a wide spectrum of anatomical possibilities. In particular, a small change in a gene, which commonly occurs, could shift the amount of a developmental molecule and/or its relationship to other molecules, resulting in a large change as seen in the fossil record.

Coming to Terms with Evolution

This new research on the relationship between evolution and embryology emerged in the early 1990s and was termed “evolutionary developmental biology,” or “evo-devo” for short. At first scattered through the professional literature in technical papers, this evidence for evolution began to converge in my mind in the fall of 1994 while I was preparing for the most challenging of all academic examinations—the PhD comprehensive. (This is an oral exam in front of 7 or 8 professors, and it is “open season” on the student. Any question is fair game, and most who have gone through the grilling process rarely have their self-image stroked!) Just a month before the exam, I was in Northern Alberta teaching dental students in a satellite clinic of the university. It was there that the pieces of evo-devo evidence came together and made complete sense. It was also during that two-week period that I read my first paper on theodicy and evolution. As noted earlier, I’m a bit embarrassed to admit that I went through graduate school in theology and never did a course on the problem of suffering and evil. However, with evolution becoming a reality for me, a timely and providential paper cleared away any theological stumbling blocks with regard to theodicy.

Gary Emberger’s “Theological and Scientific Explanations for the Origin and Purpose of Natural Evil” was published by the *Journal of the American Scientific Affiliation* in September 1994. This paper underlined that Christianity for the most part had been shaped by the theodicy of St. Augustine. Accordingly, it was assumed that God had originally created a *perfect world* that was later corrupted by human sin. But Emberger also introduced me to the theodicy of Irenaeus, the Bishop of Lyons (130–202 AD). This Church father argued that the Creator had initially made an *innocent world*, and natural evils were part of His plan for the spiritual development of humans. In other words, Irenaeus proposed a pedagogical theodicy. This made a lot of sense at a personal level. I had come through trying experiences, and despite the pain and suffering, I could see these as being good for my growth as a Christian. Of course, I was far from formulating a detailed evolutionary theodicy. But reading Emberger’s short, nine-page paper a number of times during the five-hour bus ride from Northern Alberta back to Edmonton opened a door to reconsidering the causal connection between sin and death.

Needless to say, my plate was more than full. The scientific evidence for evolution was jumping out at me with evo-devo, I was thinking seriously about theodicy for the first time in my life, and I had a PhD

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comprehensive to pass in the first week of December. The night before the exam, I was invited to a study group formed by Christian professors. I justified that if I didn't know the information for the exam by now, then I'd never know it for the next morning. Best to take a night off and relax. The professors were from different evangelical colleges in town: Baptist, Lutheran, and Christian Reform. The topic for the evening was a review of Mark A. Noll's recently published book *The Scandal of the Evangelical Mind* (1994). At that time, Noll was teaching history at one of the most important evangelical colleges in the United States, Wheaton College in Illinois. Notably, this school requires that its professors sign a statement of faith indicating that they accept the historicity of Adam.¹³ The book opens with a thunderous indictment: "The scandal of the evangelical mind is that there is not much of an evangelical mind."¹⁴ Ouch! Noll's intention was not to be insulting. He is a very committed and wonderful evangelical Christian. His purpose was to capture the attention of his fellow brothers and sisters, and to correct a serious problem in their religious tradition. For me the evening was a freeing experience. And yes, even providentialistic. I was realizing more than ever that the anti-evolutionism that had gripped me in my evangelical church, and that had directed critical decisions in my life, did not meet credible academic standards.

By God's grace, I survived the comprehensive exam with minimal bruising to my psyche! To complete the PhD program, I spent the next two years doing experimental work on tooth development. A few weeks after the "comp," following a typical 16-hour day in the lab, I sat down at my computer and decided to send an e-mail to Terry Gray, the Christian evolutionist I had seen debate Michael Behe during the past summer. I hadn't planned on contacting Gray that day. In fact, I hardly knew him. But something deep inside my soul led me to write a "confession."

Date: Sat, 31 Dec 1994 23:49:26 (MST)
From: Denis Lamoureux <dlamoure@ualberta.ca>
To: grayt@calvin.edu
Subject: Falling From Grace

Dear Terry,

Well it's 1995 in your part of the continent—Happy New Year! I spent this last day of 1994 examining the fin/limb structure of the extinct lobe-finned fish *Eusthenopteron*. Considering the latest

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work on limb development, and following Howard Van Till in debate with others on the reflector (he's so gracious), I end the last moments of 1994 as an apostate.

Blessings,
Denis

P.S. But you're dead wrong with regard to concordism in Gen 2.
Heck, we can't agree on everything!

Some background is needed to understand the particulars in this message. The "reflector" was an e-mail discussion group on origins organized by Philip Johnson, the leader of the Intelligent Design Movement. Howard Van Till was a main critic of ID theory at that time and he offered many insights into a Christian approach to evolution through his debates with others in this forum. He introduced me to the term "evolutionary creation." "The fin/limb structure of the extinct lobe-finned fish" appears in Fig 9-6 and "the latest work on limb development" in Fig 9-5. And reference to "concordism in Gen 2" was my way of saying that I did not accept the historicity of Adam and Eve. I knew that tacking them on at the end of the evolutionary process was a "proof text" use of Scripture that was categorically inappropriate.

This e-mail "confession" to Terry Gray was the second "Falling From Grace" moment in my graduate school education. The first was admitting that I was no longer a young earth creationist in the post-script of the last paper at Regent College in the spring of 1987. And eight years later, the intellectual evolutionary process was completed. I was no longer an anti-evolutionist. The transition was painless and without a hint of guilt or remorse. Of course, I was mocking myself with the comments about "falling from grace" and being an "apostate." I knew that in the eyes of many Christians I would be seen as a heretic who had lost his faith by studying evolution at a secular university. And it is true that some have walked away from Christianity after studying this subject. But I also knew that Jesus was right at my side throughout this entire experience in opening the Book of God's Works.

The day after my e-mail confession was Sunday the 1st of January 1995. I went to my Baptist Church. To celebrate the occasion, the senior pastor opened the service to the congregation and asked us for items praising God that had happened during the last year. Slowly and cautiously, people began to stand and share their stories. This was a fellowship of believers who had much to be thankful for because the Lord's blessings

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had been bountiful. Then, a rather mischievous little thought crossed my mind. Should I get up and say, “I want to thank Jesus for showing me the truth that He created the world through evolution?” Needless to say, the Holy Spirit convicted me right at that moment that being an evolutionary creationist would require much pastoral sensitivity. This was the first personal revelation I had experienced as a born-again Christian evolutionist. And looking back now, it continues to be the greatest lesson that Jesus has taught me in the origins debate.

So that’s my story. In many ways, it is everyone’s story. We are spiritual beings who live in a physical world and we were made to have a personal relationship with God. On the journey toward our Holy and Infinite Creator, there are numerous struggles since we are sinful, finite creatures. Making sense of the Two Divine Books that He has set before us is one of those challenges. Indeed, attempting to understand the relationship between Scripture and science has consumed me throughout most of my adult life. Yet as the word “Israel” indicates, wrestling with the Lord is part of being human. Having made peace with origins as an evolutionary creationist, I can now look back and make a few observations about my beliefs and life that some Christians and non-Christians might find surprising.

My love for Jesus and the Word hasn’t changed one little bit since the time I was a young earth creationist. I feel His presence daily, especially when reading Scripture for my spiritual nourishment. My prayer life is the same and the sense of calling to defend Christianity continues to burn in my soul. And my ethical positions and yearning for holiness remain intact. If anything has changed, I have a much greater appreciation for the reflection of intelligent design in nature after having studied evolutionary biology. As well, my charismatic experiences with signs and wonders have increased. It was God’s grace through faith that saved me from my sinfulness on an island faraway a quarter-century ago, and it is the Lord’s love that continues to infuse my life every day with meaning and comfort a dozen years after coming to terms with evolution.