Belief, Life, and Understanding: An Engineer’s Take

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Few care to know what engineers think, and fewer still have any interest in the fundamental principles upon which they work. While there is appreciation for both modern and not-so-modern conveniences – cell phones, computers, vehicles, air conditioning, electric lights, plumbing, heating systems – most would prefer that whatever goes on in the engineering mind, stays in the engineering mind. That said, this engineer would like to take you on a short journey of discovery, an excursion where a little engineering-type thinking will be applied to some of the broader issues of life. The journey, consuming no more than fifteen minutes for even a plodding engineer, will include three stages (no math involved): First, a quick overview concerning foundational beliefs; second, a way of thinking about life that provides a facilitating viewpoint; and third, our objective – progress along the path of understanding.

BELIEFS

1) The world is orderly (i.e., the physics of the universe are consistent)
2) We are capable of understanding more than we currently understand (self-evident)
3) Understanding is a good thing

Why is understanding good? Better understanding generally means we are better able to anticipate the consequences of our actions. Better anticipation then leads, in turn, to better decisions.

In engineering, as in most fields of knowledge, such thinking is both implicit and indispensable. In some areas, however – most notably religion – there are those who believe we should be constrained by the beliefs and understanding of persons long gone. Untold numbers have paid dearly at the hands of the “righteous” for violating such constraints. But what if writers in ancient times were mistaken in their thinking, or what if the thoughts they were attempting to convey are now incorrectly interpreted?

What happens if words put down with a figurative intent are picked up in a literal sense?

With poor understanding leading to problems and suffering, what are we to do? The answer, coming from above (i.e., the foundational beliefs), is clear: Push ahead along the path of understanding.

LIFE

For the purpose of gaining a useful perspective on life, consider the idea of resonance. What is meant by resonance? Put simply, a resonance may be described as a repeating pattern of energy that sustains itself by drawing energy from its environment. A swinging pendulum in a grandfather’s clock, powered by the weights to which it is coupled, is representative. In that light, envision stepping back through generations of maternal ancestors – mother, to maternal grandmother, to mother of maternal grandmother, etc. One could, in thought, step back through 10 generations, 100 generations, 1,000 generations, or a million or more generations. There is a continuous connecting path back further than most would care to imagine. With each generation, a female was conceived and born, grew up, became pregnant, gave birth, and died. Beyond those basic milestones, we can also be sure that each individual life we would encounter in a time-lapse video of our maternal lineage would have had its ups and downs and struggles as life proceeded from birth through motherhood and beyond. Some of those mothers did not live to see their offspring mature, but at a minimum they carried the next generation of life within themselves long enough for that offspring to survive and grow up to be a mother herself. With each of those lives, and with the help of the communities in which they lived, energy was drawn from the environment to both sustain life and create the next generation of life. Thus the view that each of us is part of mankind’s resonance. Mankind, in turn, is part of what can be thought of as life in the broad sense: Life,
capitalized and bolded, the amazing, intricate, interconnected resonance encompassing all life on Earth.

UNDERSTANDING
Beginning with Ourselves

Life is not analogous to a resonance; life is a resonance. That recognition helps us to step back and consider life from a detached, shall we say, engineering perspective. On a broad scale, we can expect the strength and sustainability of mankind’s resonance will be impacted by changes in our environment – changes which may be either self-inflicted or externally imposed – along with how efficiently we use and how effectively we manage our resources. Focusing in, individuals can be seen as incredibly complex entities that make their way through life by continuously sensing their environment, sensing their own status, and based on the acquired information making actionable decisions between alternative options. In the decision process, evaluations must be made of expected outcomes and assessments done of each option’s “goodness.” The great difficulty here from our assumed engineering perspective is that making a choice necessitates a common assessment scale. If a person must decide between eating a cookie and drinking some water, how is that decision to be made? How are the expected consequences of each option to be valued? What scale is to be used?

Freud considered pleasure and then something beyond pleasure. Nietzsche thought that everyone’s driving motivation was “will to power.” A case can be made that while Nietzsche was close, a better scale involves control. Consider the following postulate: People strive for control of the world in which they live. By “world in which they live,” what is meant is that each person has, in effect, his or her own personal world. That world is made up of one’s own being and those portions of the environment that one pays attention to and interacts with. “Control” implies the ability to transition from particular circumstances in which a person may find himself to more desirable ones. Making use of words from Nietzsche, if one crawls “into the very heart of life and into the very roots of its heart,” what is found is a singular objective. The baby crying when it is hungry, the child racing down the field with a soccer ball at her feet, the high school student taking the SAT, the suicide bomber hoping to wreak havoc and the security people watching for suspicious activity are all, I would argue, driven by our striving for control of the world in which we live. Just to be clear, having control over my world doesn’t mean I need to tell Joe Shmo down the street how to live his life; what it does mean is that Joe’s activities and decisions don’t unduly dictate or interfere with how I live my life.

A Fundamental Conflict

Now combine this striving for control – generally recognized in a casual sense but which on close inspection appears to emanate from the core of our being – with the firm knowledge that life is limited. We have arrived at humanity’s fundamental conflict: We strive for control but know we will die. Faced with this conflict, what do we do, how do we try to resolve it? One approach has been to create concepts – God, heaven, eternal souls, reincarnation – that attempt to deny death. Is there a better explanation for the truth many feel in St. Augustine’s statement that, “Our heart is restless until it rests in you”? Is there a better explanation for the power, pervasiveness, and diversity of religion around the world and throughout recorded history than the perpetual tension of this fundamental conflict? Pascal Boyer, in Religion Explained, makes the case that we entertain concepts pertinent to religion and in the forms that exist as a result of our cognitive inference systems. No argument with that, but it doesn’t provide an explanation for the magnitude of the influence religious beliefs have exerted. In The Social Conquest of Earth, E. O. Wilson sees creation myths, whose acceptance “binds the members together,” as the core of organized religion. Many groups of various types – a football team’s fans, worker’s unions, political parties – have their “story” that binds them together, and their fanatical supporters, but if we consider the artistic and architectural wonders created in the name of religion, and the death and destruction perpetrated on the same basis, religions are in a league of their own. It takes more than just a “story” that ties people together to generate the level of passion associated with religious beliefs.

Concept Creation

The previous examples of our striving for control all involved actions in the physical realm of our existence, but in our creation of concepts we see that it also applies to the conceptual realm. Our striving for control not only explains why we do what we
do, but also why we think what we think. We create and utilize concepts in our efforts to gain at least a sense of control. For the purpose of illustration, consider the Christian extraphysical concepts (extraphysical, often defined as “not subject to physical laws or methods,” denotes things disconnected from observable reality) pertaining to man’s place in the universe in the year 1500, a point in history prior to the observation-based concepts of heliocentrism and evolution. The Earth was the center of the universe, mankind, given dominion over the Earth, was the pinnacle of God’s creation, and each person via his or her soul was an eternal being. Some people’s eternities would be heavenly and others’ otherwise, but that factor only enhanced the essential message: We were important and through the grace of God we had control. Now, 500 years of scientific progress and 25 generations later, views of what is true have changed. With the perspective enabled by the above hypothesis, we additionally see that those previous beliefs were not merely randomly wrong, but were in reality extraphysical concepts born out of our striving for control and enabled by a lack of knowledge.

Religion’s Appeal

Religions throughout history have certainly done a great deal more than just help us deal with death. If we stick to the positive side of the ledger, I think it is reasonable to say that religious benefits generically fall into the following categories:

1) A genesis-type story that provides people with a sense of humanity’s (their group’s) beginnings and place in the universe;
2) The creation of a broad cross-section of people with a common belief system, thereby facilitating cooperative behaviour;
3) The formation of a structure around which life can be organized and significant life events can be marked and either celebrated or recognized;
4) A means to comprehend and deal with death;
5) The possibility of helpful intervention by a supreme being relative to either this life or a postulated afterlife.

Although religions are based on extraphysical beliefs, those benefits are real. The aforementioned “power, pervasiveness, and diversity of religion” is testament to the truth of that statement. If groups with lesser degrees of “religion” had been able to dominate during mankind’s past, any religion that existed would have been washed away. It is not unreasonable to believe that societies were strengthened by religion-based coherency, with religion drawing its strength off the need people have for some means to deal with our fundamental conflict.

Some might argue that rather than helping us deal with our conflict and providing comfort, religions often do the opposite. No doubt about it. Religious leaders would have quickly learned that they could strengthen their position by increasing the general level of concern with death, or in the terminology of the striving for control hypothesis, making death a bigger part of the world in which people lived. Graphic depictions of hell and Elysian ones of heaven are evidence of that. Thus, while religions at their core are powered by the need we have for some means to deal with the flame of our fundamental conflict, it is not to a religion’s advantage to dampen the fire, but to fan it with one hand while offering, on condition of conformity, a cooling drink with the other.

Fading Religion?

Religions were and are a powerful tool in creating strong and coherent groups, but they don’t work quite so well when people start asking questions, and they run into real difficulty when people develop understanding based on what is repeatedly observable. In many parts of the world, religious participation is fading and a number of reasons are likely contributing. With respect to benefits, science now offers a genesis story and secular governments do a reasonable job with benefit #2 (creating a common belief system that facilitates cooperative behaviour). Perhaps more importantly, in regards to our fundamental conflict, we would expect from the striving-for-control hypothesis that relatively risky environments would drive up religious belief, while relatively benign ones would result in a drop. The sentiment conveyed by the statement, “There are no atheists in a foxhole,” supports the former, while in modern societies, where the shadow of death is not the close companion that it has been through much of human history, the fading of religious participation is consistent with the latter. In addition, in an environment of global awareness, the exclusively correct attitude of religions contributes to the impression they are all fictions, thus undermining the
believability of teachings used to enhance sensitiv-
ity to our fundamental conflict.
(With the fading of religious benefits and believ-
ability, and recognizing the modern world reality of a
fast-paced, consumption-driven life, a question aris-
es: Might it be that we have substituted diversion for
denial in dealing with our fundamental conflict? Has
a trip to the mall replaced a trip to church?)
The clear and simple logic outlined above pro-
vides a framework for understanding that further
challenges religious belief. Specifically, it is our
striving for control and the fundamental diversion
between this striving and the awareness of our in-
evitable death that power and steer our beliefs and
behaviour. Nevertheless, with both logic and what
is perceived as “truth” often being slaves to our
striving for control, there is no doubt that religious
benefits #3 - #5 (structure for our lives, a means to
deal with death, and help from a supreme being)
will continue to provide enough attraction to retain
believers even in strongly secular societies.

Religion’s Place
It is important to not be misunderstood relative
to the preceding discussion of religion. Given that
there are real benefits, and that the extraphysical be-
liefs of religions cannot be proven wrong, there is
– with one caveat – neither reason nor basis to reg-
ulate or disrespect the religious practices of those
who desire religion’s benefits. The caveat: Religious
practices based on extraphysical beliefs should nev-
er be used to justify subjugation or abuse of anyone,
whether in-group or out-of-group. Extraphysical
beliefs, weightless even in comparison to “thin air,”
are acceptable as building-blocks for benefits, not
as a cause or justification for suffering.

SUMMARY
For those who see the concepts presented above
as a challenge to accustomed thought patterns, your
excursion guide has a simple request: Consider wheth-
er or not those concepts help make sense out of in-
formation that previously seemed perplexing. Do the
concepts help the puzzling pieces of life fit together?
For this engineer, obviously, the answer is
“Yes.” As one example, a chronic discomfort since
adolescence concerned how to make sense out of
religious claims. How could the followers of each
religion believe that their religion’s particular claims
were true, and that the claims of all other religions
throughout history were false? In light of the above,
the answer is straightforward. Religions have ex-
isted in countless variations because, throughout
history, they have arisen to help satisfy fundamental
human needs, not because any of them are the liter-
al truth. For a religion’s followers, that dependency,
usually combined with a comfortable familiarity
dating back to childhood, creates “a world in which
they live” that commands allegiance. We don’t want
to risk being thrown out into the cold.
By recognizing that all religions have the com-
mon purpose of satisfying human needs, and given
that humanism takes an observation- and reason-
based approach to those same needs, might it be that
through humanism we have our best hope of devel-
oping and dispensing the understanding necessary to
get beyond our chronic problems of religious con-
lict? Opposition will surely come from those with a
parochial view of the world, but making straight and
extending the path of understanding, enabling those
individual worlds in which we all live to be a little
more encompassing, merits our effort. Humanity, ul-
timately united by both our uniquely human needs
and our dependence on the Life about us, may more
and more come to appreciate an alternative to the too
often traveled path of destruction

References
Boyer, Pascal. Religion Explained, New York: Basic
Nietzsche, Friedrich. The Portable Nietzsche, (W.
Kaufmann, Ed., & W. Kaufmann, Trans.) New
Wilson, Edward. The Social Conquest of Earth,
St. Augustine. St. Augustine Confessions, (H. Chadwick,

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