
CHAPTER 2

RESISTING THE BACKWARD PULL TOWARD OUR SPIRITUAL HERITAGE

"O miserable minds of men! O blind hearts! In what darkness of life, in what great dangers ye spend this little span of years! ... Life is one long struggle in the dark."
Lucretius, *On the Nature of Things*, ca 60 BC.

The term "New Age" is a misnomer, and an insult to better ages. It is a misnomer because it is a regression to primitive ways of thinking, ways which should have remained buried, yet which have resurfaced due to a mysterious mental pull toward the primitive. This pull is unfortunately endemic to the flawed human mind. "New Age" embraces the occult, a belief in angels, spirits, astrology, magic and life after death. It is a return to the kinds of enslaving thoughts which Lucretius urged his disciples to be rid of 2000 years ago.

The Primitive's Reliance on Spirits

The environment of our primitive ancestors, including both the physical and social aspects, rewarded genes that constructed brains that could deal with the world, which is profoundly different from stating that their environment rewarded brains that could understand the world. As I argue in a later chapter, primitive people did not employ the full powers of a modern left prefrontal cortex, but instead relied upon a more primitive right cerebral cortex design for both cerebral hemispheres. To the extent that "producing grandchildren" (a convenient measure of genetic success) became more dependent upon mastery of a world of human relationships instead of mastery of the natural world, the architecture of the human brain evolved in ways that favored comprehending the social world at the expense of the natural one.

The social arena is less predictable than the natural one, so different mental abilities were rewarded in an environment requiring social skills. When a brain that evolved for the social setting addresses matters in the inanimate world, it should not surprise us to find that such a brain employs "weird logic" in this neglected realm. The primitive's vision of the world, being unguided by rational thought, was filled with spirits that behaved like people. Primitive people have gods for lightning, wind, rain, light, dark, and whatever seems important to a primitive's precarious life. Thus, when the sun god loses a conflict, according to this weird logic, it follows that there shall be wind, rain and lightning.

Today's common belief systems provide evidence that for our ancestors the need to competently deal with human affairs was more important to the evolving human genome than the corresponding need to competently deal with the inanimate world. In high-tech modern Japan, for example, the indigenous Shinto cult and religion

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remains popular. Shinto worship centers on "a vast pantheon of spirits, or kami, mainly divinities personifying aspects of the natural world, such as the sky, the earth, heavenly bodies, and storms. Rites include prayers of thanksgiving; offerings of valuables..." (Encarta Encyclopedia, 2000). Even well-educated Chinese still believe in Feng Shui (the need to please spirits by a proper placement of furniture, entrances, etc). American Indians, who crossed the Bering Strait 13,000 years ago, brought with them a burdensome need for believing in spirits that demanded ritual obedience. There seems to be an abundance of depressing examples from every culture.

The Dyads of Primitive Thinking

Dyads abound in primitive thinking. Night and day, good and bad, friend and foe, birth and death - they all contribute to a "yin and yang world." It is not surprising that when primitive men floundered to explain the world, they relied upon a dyadic competition. Thus, night and day are engaged in a daily struggle, literally; and at sunrise the "day" has become victorious over "night," and so on. But it gets complicated, for during winter the stronger competitor is night, whose exhaustion gives day the upper hand during summer.

Conflict permeates a primitive's thinking, because conflicts between tribes define primitive life. Nevertheless, men battle upon a stage set by even stronger forces than themselves. The weather is overwhelmingly strong, as is the ocean, the occasional earthquake, tsunami and volcano. There must be gods in heaven who unleash the thunderstorm and lightning, that punishes and rewards men. Since powerful men can be appeased, or slightly influenced, so might the gods. Man's quest for control over his fate led him in false directions, for gods cannot be appeased when they don't exist.

We should laud the primitive's urge to explain, even though it seems to be only weakly motivated by an urge to understand. The human claim for nobility rests upon this urge. But let us also not be mistaken about the explanations created by primitive men: Primitives have been stupendously wrong in almost every instance!

Their explanations were wrong because they arose from a primitive right brain. Only recently, with the ascendance of the aforementioned, fast-evolving left brain, with its logical mode of thought and lack of traditional "wisdom," has it been possible to conjure up correct explanations. But, so strong is the irrepressible right brain that even many contemporary "intellectuals" still believe that primitive explanations contain some profound and subtle wisdom that makes it "just as valid."

Thinking men of every age seem to have sensed a pull toward primitive thinking, and worse, toward primitive behaving. The decay of civilization has been an ever-present concern for those who live in a civilized state. This concern was expressed by ancient Greek philosophers, just as it is in today's world.

We know that the civilized state is not secure, because we sense the presence of that insistent and primitive right brain. To use the primitive's own metaphor, we are

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engaged in a struggle between good and bad, between light and dark, and it is now "late afternoon." Some of us who worry about the approach of evening, and a long night, admonish our contemporaries to resist the "primitive pull," to stay the course that brought us to this glorious noon, atop the highest mountain, by keeping the new faith as it struggles with the old. It has become a battle between the two titans of human history: the two brain halves!

The Modern's "Spiritual Cleansing"

The primitive way of thinking is more efficient to implement than the modern physicist's cumbersome $a = F/m$ and quantum physics way of thinking.

We moderns smile at those faltering attempts to see order in nature. From our 21st Century perspective, we see that their "explanations" are pathetically simple-minded, and emphatically wrong!

Yet most people today feel comfort in being pulled in this primitive direction. It's as if the more complicated and up-to-date explanations require too much effort, resisting as they must the objections of old brain circuits. The result, for most people, is that the brain maintains old and new understandings side-by-side. The human brain is amazingly adept at compartmentalizing thought, and allowing the most irrational beliefs to coexist beside enlightened ones. "Cognitive dissonance" is minimized by insulating brain circuits from each other.

More than a few scientists surrender rationality on Sunday. I once worked with a scientist, a master of magnetic fields on planets in our solar system, who believed in the many levels of heaven taught by the Mormon Church. I give more examples of this in Chapter 14.

During Humanity's long march to the present, we have progressed from "magic" explanations to "rational" ones. Those brave thinkers who led the march have shed the magic and embraced the rational. Rationality led to reductionism, which I believe is Humanity's greatest intellectual achievement! The march forward has been led by people whose style of thinking adheres to the values of our left cerebral hemisphere, or left brain. The regressive, backwards pull is from a majority of "neurologically primitive people" whose thinking style remains right-brained.

Humanity's path to reductionism has been "forced" by necessity. Imagine the consequences of taking your car to a minister for its repair, instead of a car mechanic; or seeking medical help from a shaman medicine man instead of a medical doctor or nutritionist. Our primitive ancestors had no need for car mechanics, and in their time medical doctors didn't exist, so they had less to lose by adhering to magic. With the unfolding of time, and the accumulation of technology, there has been a growing need to distinguish between spiritual and rational explanations.

Not all aspects of modern life require rational explanation. My friend who believed in many levels of heaven was unencumbered by this belief during his work hours. His

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spiritual beliefs might, in fact, have had a stabilizing effect in his personal life. It is relatively inconsequential whether a person believes they will go to heaven when they die, or dissolve to dust! It is more important that they know about family budgets, cars, computers, and nutrition.

Whereas it may not matter to a person's success at living whether all remnants of spirituality have been purged from his intellectual outlook, it does matter to the person engaged in a serious endeavor to understand "the nature of reality." Every serious thinker is obligated to undertake a lifelong vow to cleanse away all vestiges of spirituality!

We must control the impulse to regress to a world of spirits, no matter how comforting it may be. As argued by Lucretius, we must move forward, abandon belief in personal guardian angels and protecting gods, and replace them with understandings based on rational thought.

Are We Making Progress?

During the past 80 years scientists have slowly aligned their personal beliefs with rationality. In 1916 Leuba surveyed the beliefs of 1000 randomly selected scientists and found that 42% of them believed in God, whereas a similar survey conducted in 1996 showed only a modest decline to 39%. The belief in immortality declined by a slightly greater amount, from 51% to 38%. Perhaps more revealing, the more accomplished scientist is less likely to believe. Leuba (1914) surveyed 400 "greater" scientists and found belief in God to be 28%, whereas Leuba (1933) found that 19 years later the belief rate declined to 15%.

Today, Larson and Witham (1998) report that among 517 American scientists who belong to the prestigious National Academy of Sciences only 7.0% believed in God. Considering a belief in immortality, the above studies report that for 1916, 1933 and 1998 the belief rate was 35%, 18% and 7.9%. Among the general population of non-scientists, 96% believe in God!

There appears to be a decoupling of what people of accomplishment believe and what the *hoi poloi* believe. Thus, among "greatest" and "accomplished" scientists the rates of belief in God and immortality are low and declining dramatically, among the ranks of scientists as a group the belief rates are less than half and declining slowly, whereas among the general population the belief in God is high and remains unchanged. Only the intellectuals are abandoning God!

Faltering Progress

As my chapters on the brain explain, I believe that the right prefrontal cerebral cortex finds mysticism and religion congenial to its way of thinking, whereas the left prefrontal cerebral cortex is inclined to think rationally. There is little doubt that the left cerebral cortex is a more recently evolved brain area than the right, as it is responsible for speech, conceptual thought and logical thinking. The practice of

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science requires a well-developed left brain, although a well-functioning right brain is also required in a supporting role. I speculate that scientists typically have left brains that "dominate" their right, in the sense that the left brains use the right brains as "tools" in the pursuit of left-brain-directed activities. The scientist values things that the left brain values, and the scientist's approach to studying a problem, and the standards of proof, are consistent with the style of thought of a left brain. Among the others, it is the right brain that employs its left as a tool, keeping it subservient to right-brain values and goals. This more common style is a phase humanity must continue to "evolve through" if it is ever to reach a winning place as a sentient species.

As I look back upon the recorded history of the human groping for an understanding of who we are I discern good and bad eras. The first good era was 5th Century BC Greece, when the Ionian philosophers articulated the reductionist paradigm, as described by Sagan in his book *Cosmos* (1980, pg. 175). Democritus was the shining star of that era. The next era would be 1st Century BC Rome, when Lucretius wrote his famous poem *On the Nature of Things*. There followed a Dark Ages millennium during which anyone who thought rationally had to keep their thoughts secret. Stirrings of rationality started in 17th Century Denmark. The 18th Century *Philosophes* in France produced a full-bloom resurgence of interest in Greek thought, but this rebirth was short-lived due to the French Revolution. During the 19th Century European discoveries buttressed support for rationalism and the reductionist paradigm in particular. The new physics of the early 20th Century began to discredit reductionism, unfairly in my opinion, though rationalism continued to prevail. The global depression quieted many independent thinkers (like H. L. Mencken), and this marked the beginnings of a slow return to spiritualism. At this writing, in 2011, I see only a downslide of critical thinking that cannot compete with the primitive appeal of religion and an excess of politically-correct embrace of diversity of thought, no matter how irrational. A new Dark Ages might be approaching.

Laying a Groundwork of Understanding

The prospects are poor that during the next century the general public will embrace a rational outlook. Most people, even most intellectuals, are inclined to use the term "reductionism" disparagingly. This can be understood if their belief systems are influenced by a primitive, right prefrontal cortex. Rationality, which is a left prefrontal cortex creation, is in conflict with the old right pre-frontal cortex. A fuller explanation of this will follow chapters on human evolution, the brain's role in human evolution, the appearance of the artisan, his role in the rise of civilizations, and the resentment of the artisan's rapid rise to power.

These chapters, in turn, will be preceded by a tutorial on genetics, using the sociobiological paradigm. This will be our task for the next three "genetics tutorial" chapters.

If, dear reader, you find the genetics tutorial chapters tedious, then skip them if you must. You merely risk not having some tools for understanding the "micro-motives"

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underlying the "macro-behaviors" under discussion. The genes, after all, underlie everything pertaining to life!

The chapters describing human evolution (Ch. 6) and the brain's role in human evolution (Ch 8) are intended to illustrate reductionist ways of thinking about the evolution of human nature, and should not be skipped. They provide a background for understanding the following speculations on the rise and fall of civilizations.

The utopias and living wisely chapters will resume the main theme of this book, which is concerned with the individual's predicament of living with "outlaw genes." The intervening chapters present a story of how humans came by the weird human nature we're stuck with, and I see no way of resuming the main topics without the preparation of these intervening chapters.

"It does no harm to the mystery to know a little about it. For far more marvelous is the truth than any artists of the past imagined! Why do the poets of the present not speak of it? What men are poets who can speak of Jupiter if he were like a man, but if he is an immense spinning sphere of methane and ammonia must be silent?" Richard Feynman, *Lectures in Physics*, Vol. 1, Addison Wesley, 1963.