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# INTRODUCTION

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## BEGINNINGS OF AN IDEA AND BOOK OVERVIEW

Washington, DC in 1962 was an exciting place. President Jack Kennedy created a "Camelot" aura that fed hope for unbounded progress. But the Cuban Missile Crisis brought a sobering chill to the country, especially to residents of Washington, DC. On my way to work I'd look north at the Capitol Building and wonder if it would be blown-up by a Soviet missile while I was looking at it.

My first job after college was at the U.S. Naval Research Laboratory, where I worked as a radio astronomer specializing in Jupiter's radiation belts. Freed of time-consuming college coursework, I was able to broaden my reading. A few years earlier, the double-helix structure of DNA had been discovered. Perhaps stimulated by this, or maybe from the sheer momentum of a childhood fascination with the way genes influence behavior, I stumbled upon a thought which I now believe is the second-most profound one of the 20th Century: "outlaw genes."

### 1963 Identification of Outlaw Genes

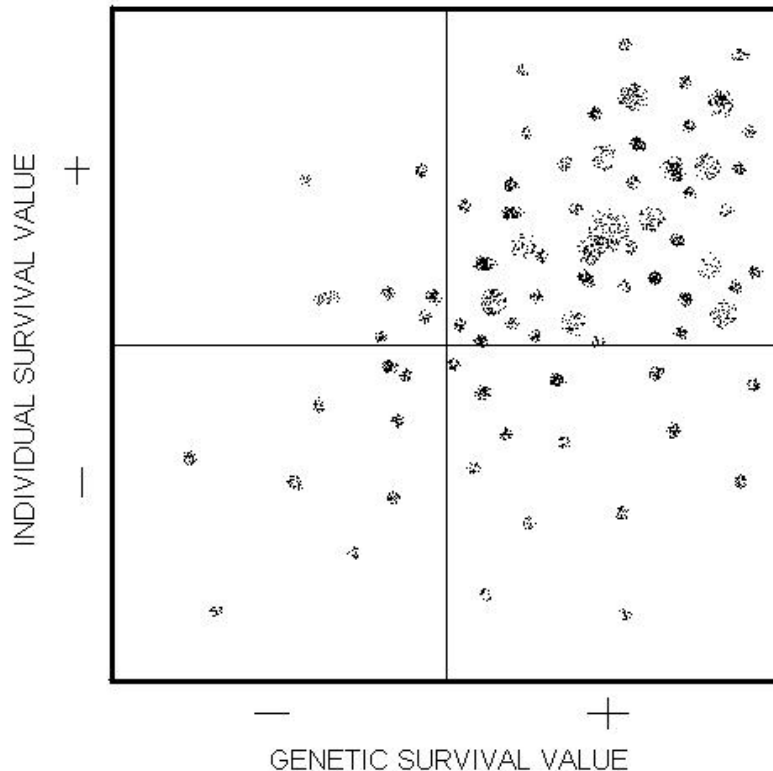
On February 23, 1963 I was imagining the possibility of categorizing gene mutations as either promoting or subtracting from their ability to survive into the future and I needed terminology for this gene attribute. "Gene Survival Value" came to mind. Given a sufficiently well thought out measurement protocol any gene could theoretically be placed on a GSV spectrum, with endpoints labeled PGSV and NGSV - standing for "positive GSV" and "negative GSV." (I recall being dissatisfied with such awkward terms). At about the same time I was also struggling to devise theoretical concepts that might guide an individual in choosing a "rewarding life path," as ill-defined as such a concept can be in youth. Longevity was one factor, so given the GSV example I invented ISV, for Individual Survival Value. The ISV extremes, of course, were PISV and NISV. At this critical juncture, it seemed right to draw an X-Y coordinate system, representing GSV and ISV. (In retrospect, "individual well-being" would have been a better parameter to adopt than Individual Survival Value.) The figure on the next page is a rendition of this scatter diagram.

In theory, any gene could be "placed" in such a diagram (I hadn't encountered the concept of polygenes or pleiotropy at that time, to be discussed in a later chapter). I imagined genes for this and that, and placed them in the diagram. I recall thinking that there had to be more dots in the upper-right quadrant, corresponding to PGSV/PISV.

I realized that there shouldn't be many dots in the opposite corner since NGSV/NISV mutations should quickly disappear. Likewise, there shouldn't be many dots in the upper-left NGSV/PISV quadrant, though wouldn't it be nice if genes flourished when

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they promoted individual happiness regardless of the cost to themselves. But it was the lower-right corner that awaited me with a surprise! Gene mutations of this type would "by definition" flourish while "punishing" the individual carrying them! And nothing could be done about it, short of replacing the forces of natural selection with artificially created ones. This gene category has fascinated me ever since!



**Figure 1.01** An X-Y matrix of "genetic survival value" and "individual survival value" with hypothetical markings of the locus of individual genes (as conceived in 1962).

Why hadn't I read about such genes? Surely others knew about the inherent conflict between the individual and some of the genes within! I looked forward to someday reading about these "outlaw genes," and the philosophical dilemmas they posed. I stashed these original diagrams and writings on the matter in a file, which remained closed for decades. Nevertheless, I did not forget about these genes and during the past four decades I have written about the subject in my spare time.

### Coincidences

In the Fall of 1963 I enrolled at the University of California at Berkeley for graduate studies in astronomy. As the prospect of taking required courses on such topics as stellar spectroscopy sunk in, I realized that my career path had taken a wrong turn, of sorts, since my heart was with the humanities. I managed to add classes in

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psychology and anthropology as a consolation for the dry astronomy stuff. (I quit before semester's end, and have been gainfully employed in the physical sciences ever since.)

Although coincidences can shape lives, more often they don't. While I was at Berkeley a little-known biologist, George C. Williams, was using the school library to write a manuscript that would be published in 1966 as *Adaptation and Natural Selection: A Critique of Some Current Evolutionary Thought*. He was making a case for the view that selection forces work at the level of the genes, not the individual (and definitely not the species). Although this perspective was inherent in my thinking I failed at the time to grasp its novelty. I assumed that somewhere in the humanities was a field in which everyone believed this. Of course I was wrong, for Williams was engaged in creating such a field.

In this same year, 1963, William D. Hamilton prepared manuscripts describing "inclusive fitness" (Hamilton, 1964a,b), which is an essential part of understanding how gene competition drives evolution. The work of both Hamilton and Williams were essential footings, one decade later, for Edward O. Wilson's milestone book *Sociobiology: The New Synthesis* (Wilson, 1975). In my opinion, sociobiology is the most important idea of the 20th Century.

I sometimes wonder how my life's path might have differed if I had met Williams at Berkeley in 1963. A conversation with him could have clarified for me the emerging nature of the new field, and the opportunity for a role that I might have played in that emergence. Although the field was closer to my heart than astronomy, I never ran into G. C. Williams, and I never realized that he was helping to give birth to "my" field.

### Overlooked Idea

Even now, 4 ½ decades later, no one has written clearly about the mischievous genes (to my knowledge). *The Selfish Gene*, by Richard Dawkins (1976), comes close; but it never explicitly states that genes "enslave" the individual for their selfish advancement while harming the enslaved individual. *Mean Genes* (Burnham and Phelan, 2000) comes even closer, but its emphasis is on practical steps for resisting self-defeating behaviors rather than the theoretical origins of the genes responsible for those behavioral predispositions.

Why is there such a paucity of discussion about the philosophical implications of such a profound flaw in our origins and present nature? Why have the professional anthropologists, philosophers and others been so slow to address a subject that captured my unwavering attention 40 years ago, when I was fresh out of college and struggling to establish a career in an unrelated field? Sociobiologists have written about conflicts between competing gene alleles carried by individuals of various relatedness (Hamilton, 1964a,b), between parents and offspring (Trivers, 1974), and between siblings (Sulloway, 1996), but not between the individual and his genes! If

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any field has a mandate to ask the questions I stumbled upon in 1962 it is the new field of sociobiology!

If my idea has merit then sociobiologists have simply overlooked an obvious “next step” in the unfolding of implications for the basic tenet of the field. The history of science has many examples of simple yet profound new ideas being overlooked by the professionals. Every idea has many discoverers, and probably most of them only half realize the import of their discovery. The oft-discovered idea remains out of the public domain until it is grasped by someone having the energy to push it into the mainstream.

Some of the genes within us are enemies of the individual, in the same sense that outlaws are the enemies of a society. This thought should challenge the thinking of every sentient being. The discipline of philosophy should be resurrected, and restructured along sociobiological precepts. If this is ever done the new field would have as its major philosophical dilemma the following question:

*"What should an individual do with the mental pull toward behaviors that are harmful to individual welfare, yet which are present because they favor the survival of the genes that create brain circuits predisposing the individual to those behaviors?"*

In other words, should the individual succumb to instincts unthinkingly, given that the gene-contrived emotional payoffs may jeopardize individual safety and well-being? Or, should the individual be wary of instincts and thoughts that come easily and forfeit the emotional rewards and ease of living in order to more surely live another day - to face the same dilemma? Should some compromise be chosen? How can any thinking person fail to be moved by these thoughts?

### **Overview of This Book**

In writing this book I have wrestled with the desire to proceed directly to the matters of outlaw genes, and how an individual might deal with them. But I kept returning to the position that a proper understanding of the individual's dilemma requires a large amount of groundwork. For example, how can I celebrate the artisan way of life without first describing why the genes created the artisan?

In the first edition of this book I included the many groundwork chapters in their entirety before the culminating chapters. The first person to read the book (Dr. M. J. Mahoney) stated that “Once I hit *Levels of Selection* [Chapter 11] I couldn't put the book down.” That's when I realized that I had violated the first principle of writing, which is to “quickly engage the reader before he loses interest.” In this edition I have shortened the groundwork chapters by moving most of that material to appendices. But there's still too much groundwork before the main ideas are expounded. Sorry, but I see no other solution because some basic primer groundwork is an essential path to understanding the many novel ideas in this book.

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The book's chapters are grouped into three Parts. Part I includes background material that's essential preparation for the rest of the book. Part II explores factors that determine the fate of civilizations. Part III endeavors to guide the enlightened individual in a personal liberation from genetic enslavement. The remainder of this introduction is a précis for the book.

There is no guiding hand in evolution; the natural process of the genes acting on their own behalf leads to individuals who are mere "agents" for these genes. This is the perspective of "sociobiology," also called "evolutionary psychology," and presented most effectively for the general public by Richard Dawkins in *The Selfish Gene* (1976). To understand the "blindness" of evolution one must first understand that the universe is just a "mechanism," that every phenomenon reduces to the action of blind forces of physics acting upon dumb particles. This outlook is called "reductionism," and is the subject of **Chapter 1**. It is not necessary that the reader accept reductionism in order to appreciate most of the book, but I think it helps.

Lest the reader surmise that this book is about the physics of life, I attempt an impassioned appeal, in **Chapter 2**, for an embrace of modern man's scientific approach to understanding life, and a rejection of the primitive backwards pull that captures most unwary thinkers. This appeal provides a foretaste of the spicy sting of chapters found in Part II.

Since genes are such an essential player in everything, I found it necessary to include tutorial chapters on genetics. The first of these genetics tutorials, **Chapter 3**, presents general properties of genes, such as how they compete and cooperate with each other, and have no concern for individual welfare beyond what serves them. The second genetics tutorial, **Chapter 4**, explores some subtle properties of genes that will be needed by later chapters. For example, since in every new environment some genes will fare better than others, it is useful to think of genes as being "pre-adapted" and "pre-maladapted" to novel environments. This will be an important concept in considering artisan niches in the modern world.

**Chapter 5** is another genetics tutorial, but it is not necessary for the development of the book's theme; it provides a deeper insight into the mathematics of pre-adaptation and pre-maladaptation. If you have a mathematical background this chapter will provide a deeper insight into evolutionary processes.

**Chapter 6** pulls together some of the genetics ideas and applies them to human evolution. Certain insights are needed for a person to intelligently deal with emotions that control or attempt to discredit intellect. For example, how can a person handle jealousy without understanding cuckoldry?

**Chapters 7 and 8** are devoted to the brain. The most recent advance in the evolution of the human brain is the refashioning of the left prefrontal cortex. It is important to view the brain as an organ designed by the genes to aid in gene survival. Rationality is a new and potentially dangerous tool created by the genes, and it must be kept under the control of "mental blinders" to assure that the agendas of other genes are

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not thwarted. Competing brain modules, cognitive dissonance, and self-deception, are just a few concepts that any sentient must know about when navigating a path through life's treacherous shoals.

In **Chapter 9** I write about the first artisan, whose precarious role as a full-time tool and weapon maker may have begun 60,000 years ago. When the climate finally warmed 11,600 years ago at the start of our present "interglacial," called the Holocene epoch, the small number of existing artisan roles served as a model for an explosion of new ones. The new artisans made high-density populations possible and eventually led to the creation of civilizations (**Chapter 10**). Since I will celebrate the artisan way of life it is necessary to understand how it came into existence and why others in society are likely to view it warily. I will outline a theory for "anti-intellectualism" and suggest that it may play a role in a civilization's decline.

I use "group selection theory" to argue that tribal warfare led to ever-larger tribes, which required that its membership be ever-more subservient to "tribal requirements" since the entire tribal membership had a shared destiny. Recent publications place group selection theory on firm ground and **Chapter 11** reviews the provocative suggestion that the behavior of individual tribal members alternates between "altruistic" during inter-tribal conflicts to "selfish" during peaceful interludes (referred to in the technical literature as "parochial altruism").

I argue in **Chapter 12** that when group selective forces were at their maximum during the Holocene the rewards for artisans rose and started the first-ever "individual selection" dynamic. The artisans assumed a leadership role in molding culture, governance, and opening opportunities for individual expression of creative and productive labors that led to a state that we now call "civilization." But a civilization is vulnerable to outside attack by societies that remain uncivilized, that foster religious fanaticism. These stay-behind societies harbor resentment of the material wealth of the civilized society, and instead of achieving wealth for themselves by surrendering their group-serving grip on the individual, they instead mobilize the individual to discredit their rich neighbor and declare cultural warfare on them. Religious zeal serves these super-tribes by fostering fanatical, suicidal attacks on those societies that respect the individual. But since individuals in the civilized society think first of themselves, the civilization's defense is half-hearted and ultimately ineffective.

It is inevitable that civilizations arise with an ambivalent self-hatred. This is because people whose thinking style is overly influenced by their "primitive" right brain are naturally resentful of the world created by the new left-brain artisans. The new world order favors the left-brained artisan (engineer, scientist and other rational thinkers) and relegates to some vague periphery the contributions that can be made by the old-style people. Thus, every civilization should have "two cultures" that are in conflict, and this is treated in **Chapters 13 and 14**.

**Chapter 15** begins to address the matter of what factors might contribute to the decline and fall of civilizations. The simplest theory is "natural disasters." A

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recently-proposed theory is the weakening of society during peace time (“parochial altruism”). Another is that civilization’s success in creating comfortable lifestyles causes people to relax and lose vigilance.

**Chapter 16** suggests a role for “social parasitism” in weakening a civilization and making it more vulnerable to collapse. **Chapter 17** addresses a possible role for troubadours, and the awe-struck girls who adore them, to undermine “producer” men, who, after all, create civilizations and maintain them. Women’s fascination with fashion is accused of hastening the decline of civilization in the way they favor men who appear best able to “game” civilization for short-term advantage.

**Chapter 18** gingerly raises the question of “mutational load” – or what some people would claim could be a basis for eugenics if only the concept of “mutational load” was more widely known.

**Chapter 19** is a review of American history with reference to Chapter 11’s group selection theory. A case is made that the American experience illustrates how rooted human nature is in a way of life called “feudalism” and which renders modern democracies prone to regressing into a form of government called “fascism.” It is suggested that many signs point to the collapse of the American Empire, and this can be instructive in understanding how civilizations can decline and fall. This is my impassioned polemic on the state of politics in America.

**Chapters 20 and 21** emphasize the importance of the rise of super-tribes during the onset of the Holocene epoch. For millions of years humans evolved a wariness and instinctive hatred for strangers, but the super-tribe asks its members for the first time to embrace the mostly strangers within itself. This is a new way to view what Freud wrote about in *Civilization and Its Discontents*. This strained relationship between super-tribesmen led to Liberals and Conservatives within every civilization.

In **Chapter 22** I allege that within each society are “a few good men” and lots of morons. Actually, it is instructive to partition people into three groups: those who know how to think and who develop useful innovations, those who can’t think but who nevertheless follow the lead of those who do, and those who can’t think and don’t acknowledge the merits of thinking.

“Where have all the heroes gone?” I ask in **Chapter 23**. Heroes have birth dates that cluster in a way that explains the importance of hardship in building character. Are heroes necessary for societies to remain strong?

The Rubes of yore have become the more dangerous Roobs of today. **Chapter 24** traces the origin and history of these two flavors of *hoi poloi*. Since Roobs vote, darn it, their ignorant opinions, which they take for Truth, can undo what previous generations have created, and thus weaken society toward a frightening tipping point.

**Chapter 25** pulls together the various threats to civilization described in previous chapters, and endeavors to imagine how the unfolding might occur. I use a

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hypothetical victory of a Nazi victory to explore the interplay of communism and fascism, and suggest that a similar fascism-dominated world could still unfold. If China continues to rise, economically, and America continues to decline, the new world order could put America in the role of a resource-rich colony supporting a Chinese Empire.

In **Chapter 26** I present a theoretical argument for evolutionary regression, which any scenario of a faltering civilization requires for its decline and fall to occur. Those culturgenus that enabled the creation of civilization are un-entrenched, and their loss during cultural decline will meet with little resistance. This is why civilizations fall faster than they rise.

If global civilization is precarious, wherein all empires are poisoned and die, then it is fair to ask if humanity, as we know it, could be doomed. The Anthropic Principle has many discoverers, and I'm one of them. I learned that it had been written about and published obscurely a few years before my discovery of it. I use this idea to predict the approximate date range for a significant crash in the human population. In the process of calculating this horrific event, I show that the rate of technological innovations exhibits a trace over time that foretells population patterns. From this analysis it appears that we are now in the second major "rise and fall" pattern of innovation rate and population, the latter pattern being displaced a few centuries after the first. This is described in **Chapter 27**.

In **Chapter 28** I begin my belated "call to arms" for individuals to emancipate themselves from the genetic grip. All previous chapters are preamble to this one and those that follow. Because any reader will expect a book such as this to give specific suggestions for how to use insight to live wisely, I feel obligated to present in this chapter examples for addressing the subject. It is an attempt to describe ways that an individual may live wisely in a world wracked with defects caused by outlaw genes.

**Chapter 29** is an overview of "outlaw genes." Any such list must be qualified by some nitty-gritty facts of genetics, such as pleiotropy and polygenes. Nevertheless, I present a litany of "genetic pitfalls" that any emancipated person should wish to avoid. Some genes are our enemy because they lead to dysfunctional human societies, while other genes are our enemy because they lead us as individuals to want the wrong things. The individual's task is to liberate oneself from the genes, and choose wisely. The IQ form of intelligence allows insight, and this insight must be placed into the service of an enlightened "emotional intelligence" to arrive at new personal values to live by. I readily acknowledge that my attempt to realize this chapter's goal is feeble, and the reasons for this are developed at the end of the book.

**Chapter 30** follows naturally from the previous chapter, since an individual who wishes to pursue an individual-emancipated life must do so within the constraints of living in a society where individual liberation is difficult. When a sufficient number of people awaken to their enslaved condition, thoughts may turn to a way for them to coalesce in a shared search for a winning place. I describe utopias and prospects for isolated enclaves as a path toward a stable community where individual liberation



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may be sought. However, I warn that the world is becoming too "small" for enclaves to remain safe from meddlesome outsiders. Since the door of feasibility for creating isolated space communities has shut, and since the earth is already "too small" for self-sustaining communities to remain secret, there are no feasible refuges for utopias. I conclude that today's world will not tolerate the formation of an enlightened society of liberated individuals, and that those who might wish to live in such a society must be content with learning how to live a good life as individuals with secret dreams while being surrounded by an ever-increasing number of primitive *hoi poloi*. The "society of the cognoscenti" will remain dispersed, and may only occasionally recognize each other during normal encounters.

**Chapter 31** is supposed to be a surprise, but the subtitle sort of gives it away: Repudiation of the Foregoing. I will say no more.

**Chapter 32** is an annotated version of Bertrand Russell's essay, "A Free Man's Worship." It is an excellent example of how a liberated person thinks, and I use it to illustrate the point of the preceding chapters. Namely, once a person is liberated from genetic enslavement and free to choose values to live by that are compatible with the cognoscenti's insights, an aesthetic and poetic attitude toward "existence" can be achieved. The existentialist need not be a sourpuss, nor must he become a passive esthete. The thoughtful existentialist may end up a compassionate humanist with a lust for existence!

This book has benefitted from Dr. Michael J. ("MJ") Mahoney's comments on my representation of the "physics of reductionism." In earlier editions of the book I stated that  $F=ma$  plus quantum physics could in theory give an account of the movement of every particle in the universe, which in effect made every other (higher order) "explanation" for events superfluous. After incorporating MJ's corrections the description of the physics involved is lengthier but the essence of a mechanistic universe remains true, I claim.

So now dear reader, if you exist, do take the following speculations with a light heart; hopefully your thoughts will be led in directions that are as congenial to your inherited ways of thinking as the following are to mine.