Useful Fictions

Evolution, Anxiety, and the Origins of Literature

MICHAEL AUSTIN

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Frontiers of Narrative

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To write at all is to exploit both the patience and the intelligence of one's friends. A book like this one—which forced its author to acquire familiarity with several disciplines not his own—required even more exploitation than usual. The first inklings of an idea for this book came in 2005, during an honors seminar on human nature that I taught in collaboration with two other Shepherd University professors: Larry Daily from the Department of Psychology and Tom Patterson from the Department of Sociology. Throughout this course, Larry introduced me to the basics of evolutionary psychology, and Tom made sure that I understood why everything about it was totally wrong. Both improved my own thinking immeasurably.

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INTRODUCTION: *The Big Question*

Almost all of the phenomena that are central to the humanities are puzzling anomalies from an evolutionary perspective. Chief among these are the human attraction to fictional experience (in all media and genres) and other products of the imagination.

—John Tooby and Leda Cosmides, "Does Beauty Build Adapted Minds?"

The Big Question

Here are some of the questions that this book will try to answer: Why do stories with sad endings make us cry? Why do we like scary movies but not scary situations in real life? How is it that we can think of a fictional character as a "friend" whose triumphs thrill us and whose misfortunes cause us pain? Why will we continue to watch a movie or television show that we don't really like just to see how it turns out? Why can a single summer blockbuster movie earn more than a billion dollars in worldwide box-office receipts and licensing fees? Why, in other words, do we like stories so much—especially fictional ones? That is the big question.

On one level, of course, the big question has an easy answer: we like stories because they give us pleasure. But this doesn't really settle the matter; it just pushes it back to another level. Pleasure is a bribe for us to engage in activities likely to enhance our chances for survival and reproduction. Most of the things that give us pleasure—food, sex, playing with our children, the feeling of satisfaction that comes with solving a difficult problem—are so clearly related to our genetic fitness that there is no need to analyze them further. Some kinds of stories, too, have a clear evolutionary value, such as the narratives that we use to communicate accurate information. As Brian Boyd explains in *On the Origins of Stories*, it is easy to understand the evolutionary advantage

of *true* stories, since human beings depend on reliable information for almost everything that they do. "But the more we gain from sharing the information in true stories, the less need we would seem to have for the false information of fiction."[1]

This is not a trivial problem. Some form of literature or oral storytelling plays an important role in every human culture. We devote enormous resources to the pursuit of fictional information—books, movies, television programs, interactive video games, and just sitting on the front porch bragging about things we have never done—that have no obvious impact on our survival or reproduction. Daniel Dennett writes in *Freedom Evolves* that "any phenomenon that apparently exceeds the functional cries out for explanation. We don't marvel at a creature doggedly grubbing in the earth with its nose for we figure it is seeking its food; if, however, it regularly interrupts its rooting with somersaults, we want to know why."[2] Given the enormous effort required to compose something like *Remembrance of Things Past*—whose author died young without contributing a single gene to the pool—evolutionists might be forgiven for seeing literature as the cognitive equivalent of a pig doing backflips.

Over the last few years, scholars in both literature and cognitive psychology have proposed a number of ingenious answers to the big question. I will summarize a number of these answers in Chapter One and will draw heavily on several of them for the remainder of the book. But since it is a big question it has room for many answers. My own answer to the question relies on the concept of "useful fictions"—a fairly common concept in philosophical discussions whose meaning must be tweaked just a bit before we can use it in a discussion of the evolutionary origins of literature.

The word "useful" will require only modest tweaking. We are used to defining usefulness in reference to ourselves. Something is useful to the extent that it helps us achieve our goals, which usually involve being wealthy, happy, healthy, popular, or the like. In evolutionary terms, however, something is useful only to the extent that it helps an organism pass its genes on to other organisms. Nothing else matters. Natural selection did not design us to be happy, and it doesn't care whether or not we are emotionally fulfilled. It operates through a strict, methodical, and very simple set of rules: 1) organisms that survive and reproduce

leave copies of their genes behind—including copies of whatever genes constructed the physical or mental characteristics that helped them survive and reproduce; 2) organisms that do not survive long enough to reproduce leave no copies of their genes behind; so 3) over long periods of time, genes that help organisms to survive and reproduce will tend to dominate within a population. These are the terms upon which I will base my judgments about what makes a fiction useful.

The word "fiction" is more problematic, as it has several distinct connotations that are relevant to this study. Literary critics often try to limit the definition of the term to something like, in Dorrit Cohn's words, "a literary nonreferential narrative text." As Cohn notes, however, at least four other uses of the word have crept into literary discussions: "fiction as untruth, fiction as conceptual abstraction, fiction as in (all) literature, and fiction as (all) narrative."[3] For Cohn, these are all distractions that divert our attention away from the kinds of fictional texts that literary critics ought to be criticizing. For the most part, I agree with this sentiment. I am not interested in contributing to what Marie-Laure Ryan characterizes as the postmodern "destabilization of the borderline between fiction and nonfiction."[4] I have no desire to show that what we call "fact" is just another species of fiction, nor do I believe that we can only have access to factual discourse through the narrative tools of the fabulist. Truth with a capital "T" can rest safely for the remainder of this book.

In attempting to trace the possible evolutionary basis of our attraction to literary fictions, however, I do not limit my discussion of "fiction" to the self-consciously made-up stories that Cohn sees as the most legitimate object of literary study. This kind of fiction developed too recently to be the subject of the kind of evolutionary analysis that I am proposing. In my attempt to understand how such fictions became attractive to human beings, I will need to consider at least two of Cohn's alternate and competing definitions of the term: 1) fiction as untruth, and 2) fiction as conceptual abstraction. I incorporate these other definitions, not to advance a specific understanding of what fiction should mean in a literary sense, but to address issues of counterfactuality and adaptation that are crucial to the evolutionary argument that I am making.

Some of the most elemental fictions that I will examine are examples of Cohn's first definition, fiction as untruth—or to revise slightly, fiction

as non-fact. This definition, which still retains great semantic force in set phrases such as "pure fiction" or "fact verses fiction," bears directly on a central question of this book: "why did natural selection—with its well-documented tendency to reward the use of factual information—design creatures who are universally attracted to non-facts?" All kinds of non-facts are relevant to this line of inquiry—mistaken beliefs, deliberate deceptions, convenient generalizations, counterfactual propositions, and, of course, novels and plays. But before we can understand the evolutionary function of literature, we must first grapple with the adaptive value of non-factual information generally. And it is from this perspective only that I consider examples from this very broad definition of "fiction."

My discussion also owes much to Cohn's second definition of the word, fiction as conceptual abstraction. These are the fictions created by philosophers and mathematicians as thought experiments or theoretical placeholders—things like negative numbers and pre-societal states of nature. One of the best-known discussions of conceptual fictions is Hans Vaihinger's 1925 classic *The Philosophy of "As If."* The consummate pragmatist, Vaihinger believed that human inquiry—especially scientific inquiry—was forever in the position of trying to know and describe the unknowable and indescribable. For Vaihinger, we all resort to conceptual abstractions of one sort or another—and then proceed *as if* they were true—because the alternative is complete cognitive paralysis. Jeremy Campbell aptly sums up both Vaihinger's definition of "fiction" and its relationship to Darwinian natural selection in his book *The Liar's Tale*:

> Given [the] impossible aspirations of the intellect, Vaihinger suggested it would be better not to chase after absolute truth, but rather to acquire knowledge by means of ideas we know to be false, but nevertheless are of great practical usefulness in accessing reality. These ideas he called "fictions". . . . Vaihinger saw an intimate connection between these serviceable untruths and "what Darwinism calls useful illusions formed by natural selection". . . . The world of such figments is just as important as the world of the so-called real or actual, he stressed, and far more consequential when it comes to ethics and aesthetics.[5]

These "serviceable untruths" stand between non-facts and invented stories. They are generally not narrative in content, and they are often not even communicated to other people. Rather, they are propositions that we use when accessing, storing, and processing the information that we need to survive. We employ them as if they were true, even though we know that they are not—which distinguishes them from mistaken beliefs, deliberate deceptions, and other things that are fictions only under the first definition of the word.

For my purposes in this book, then, I shall define a "useful fiction," as "any statement, proposition, narrative, or piece of information whose adaptive function does not require it to be true." Useful fictions contribute to our chances of surviving and reproducing whether or not they are accurate because their purpose is to do something other than convey accurate information. It is precisely this phenomenon that the well-known evolutionary biologist David Sloan Wilson remarks upon in *Darwin's Cathedral*. "Clearly, I need to accurately perceive the location of a rabbit to hit it with my throwing stick," he acknowledges. "However, there are many, many other situations in which it can be adaptive to distort reality. . . . Even massively fictitious beliefs can be adaptive, as long as they motivate behaviors that are adaptive in the real world."[6]

What Hath Thag Wrought

Useful fictions, I will argue, have been a basic component of hominid cognition for millions of years and provided the cognitive scaffolding upon which our well-documented love of fictional stories might well have been built. To explore this concept further, I must now invoke a (hopefully useful) fiction of my own: an intrepid Pleistocene hunter-gatherer named Thag, who lived some one hundred thousand years ago on the African Savannah.[7] Three stories from Thag's life will illustrate the concept of the useful fiction:

> Scenario One: One morning some of the members of Thag's group inform him of an impending disaster: a sick hippopotamus has died in the spring and is decomposing slowly in their only source of fresh water. The water is undrinkable, and many of the children are showing early signs of dehydration. What can they do? Thag pauses for a moment and tells them a story: a week or so ago, he

was hunting over the far hill and saw several animals drinking at a large watering hole. He tells the members of the tribe exactly how to get to this watering hole, and everyone picks up their belongings and moves immediately. When they get there, they see a fresh spring with more than enough water for everybody, and the group is saved.

Scenario Two: That same night, Thag is lying in his cave, unable to sleep. For several days he has been hearing a strange "caw, caw" sound outside, and he remembers his mother telling him that the spirit of death always comes with the sound of "caw, caw" to take people in their sleep. Thag is terrified that death will come for him in the night if he allows himself to go to sleep, so he has been forcing himself to stay awake. He knows that this is starting to affect him during the day. He is running slower and hunting less, and yesterday he almost fell off of a cliff while trying to walk back to camp. In order to keep himself awake, Thag decides to take a walk outside, and, as he is walking, he sees an unfamiliar black bird flying out of a nearby cave. With enormous relief, Thag decides that the noises have been coming from this bird all along. He goes back into his cave and, within seconds, is enjoying the best sleep he has had in weeks.

Scenario Three: Two days later, Thag is out hunting by himself again in an unfamiliar part of the savannah. As he is passing a large bush, he hears an ominous rustling of leaves. He immediately concludes that it is a dangerous animal and sprints back to camp as fast as he can move. He never finds out what the noise was, but he is glad to be back home safe and sound.

In the first scenario, Thag's narrative has survival value only if it is true. If the water is where he says it is, then he and all of the members of his group will survive to hunt and gather another day. If it is not, they will all die, along with their children, removing their genes from the human pool forever.

In the second scenario, the truth of the proposition is incidental to its survival value. Thag needs to sleep so he can have the strength to hunt, gather, and evade predators in the morning. Any proposition that

allows him to sleep has value, whether or not it is true. It could well be the black bird making the "caw, caw" noise. But it could just as easily be something else. It simply doesn't matter what is making the noise (unless it really is the spirit of death); the only thing that matters is that Thag find a way to get some sleep.

In the third scenario, there might actually be a negative correlation between the probable truth of the proposition and its adaptive value. The noise could be coming from a dangerous predator, or it could be coming from a harmless animal. But Thag must choose immediately whether or not to flee. Stopping to ascertain the truth could be fatal. Even if the odds overwhelmingly favor a harmless animal, it is still a good idea to run away. Let's suppose that, in Thag's world, ninety-nine percent of strange noises come from harmless animals like squirrels and rabbits, while only one percent come from dangerous predators like lions and tigers. This means that Thag will be wrong ninety-nine out of every one hundred times that he assumes danger and runs away. If he were to make the statistically defensible assumption that every noise he hears is a harmless animal, he would have the intellectual satisfaction of being right ninety-nine percent of the time; however, he would also be dead one percent of the time—which would be far worse for his Darwinian fitness than running away from cute, harmless creatures every day of his life. A proposition that has a ninety-nine percent chance of being true is, in this instance, far less useful to Thag than one that is only a rounding error away from being one hundred percent false.

The second and third scenarios present clear examples of useful fictions in action. They also introduce another important topic of this book: the propositions and narratives that we generate in response to anxiety. Anxiety is one of our deepest and oldest responses to the environment; its evolutionary roots precede the arrival of hominids by hundreds of millions of years. In most organisms, anxiety most often takes the form of a fight-or-flight response to potential predators. However, humans think largely in narratives—even when faced with mortal danger—so our anxiety always has a narrative component. Therefore, so must its resolution. In this book, I will pursue the following chain of reasoning in an attempt to illustrate the role of anxiety in the evolution of literature: 1) human cognition is inextricably bound up with the creation of narratives that frame our sensory perceptions; 2) when

we experience anxiety we feel compelled to resolve it, and this resolution often involves the creation of a narrative; 3) the narratives that we generate do not always have to be true in order to respond successfully to anxiety— in many cases counterfactual narratives work better than the truth; 4) the "useful fictions" humans evolved to create in response to anxiety were available to form part of the cognitive design space in which fiction, storytelling, and other narratives we call "literature" developed.

The first two chapters will set out the foundational assumptions of this study. Chapter One surveys different theories of the adaptive value of literature and situates them within a discussion of evolutionary spandrels, or tools created in the cognitive design space of other adaptations. Chapter Two examines the role of narrative in cognitive functioning, setting up the argument that storytelling and literary fictions evolved in the design space provided by these more basic internal narratives. The next three chapters explore the role of fictional narratives in resolving various kinds of anxiety: Chapter Three discusses the physiological experience of anxiety and its core connection to narrative processing; Chapter Four discusses anxieties over information deficits; and Chapter Five discusses anxieties caused by other people. The final chapters of the book deal with the fiction (in the "non-fact" sense of the word) of deception—a primary cause of anxiety in our interactions with others. Chapter Six looks, not only at why we deceive others, but at why we often derive some kind of benefit from believing, or at least accepting, communications intended to deceive us. Chapter Seven continues this argument by examining the phenomenon of self-deception as an evolutionary useful strategy.

Most chapters also contain at least one extended analysis of a literary text, usually in the form of a case study related to the central argument of the chapter. These analyses form a crucial part of my study for two reasons. First, they demonstrate the connections between the kinds of small, locally generated narratives that I am discussing in the chapter and at least one cultural narrative that has come to be considered important. Since my purpose is to argue for the usefulness of fictions, some demonstration of how a clearly acknowledged fiction can form a useful case study strikes me as an imperative. But I also hope to show with these analyses that an evolutionary approach to the origins of fic-

tions in general can open up interesting avenues for studying specific fictions and specific authors.

In conclusion, I would like to emphasize the highly speculative nature of trying to say anything about either human cognition or human evolution. We know very little about how the brain works today, and even less about how it worked five hundred thousand years ago. The scholarly literature on evolution and literature, though still very young, is already crowded with books and articles attempting to explain *the* cognitive basis of all storytelling and literature. I have no such expectations for the simple chain of assumptions in this book. Evolution has been going on for a very long time, balancing an unimaginably large number of interrelated factors with each new generation. I would be very surprised to discover that the human love of stories could be attributed to a single evolutionary cause. And even if it could, I would be utterly astonished if this cause could be rooted out once and for all by a literary critic whose formal scientific training consists of a single gen-ed chemistry course taken in 1984.

I fully acknowledge that criticism is a consummate fiction—and rarely a useful one at that. Nothing in this book will help you hunt, gather, build shelters, find mates, produce offspring, or raise children to adulthood. I do believe, however, that the current work being done on evolution and human cognition in a dozen different disciplines is both exciting and important—exciting because it has the potential to provide real answers to questions that have always been considered unanswerable, and important because the answers to these questions may someday help us solve problems that have always been considered unsolvable. Before this can happen, several enormously complicated puzzles have to be solved. My great ambition for *Useful Fictions* is simply that it will contribute in some way—either by being right or by being wrong—to that effort.

Useful Fictions