

# Science Fiction: The Evolutionary Mythology of the Future

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## Abstract

*Science fiction is the most visible and influential form of futurist thinking in contemporary popular culture. As futurist narrative, science fiction resonates with the psychological disposition to give meaning and purpose to life through stories; it facilitates total person immersion in the future; and it stimulates all the major dimensions of future consciousness. As the “evolutionary mythology of the future,” science fiction facilitates the purposeful evolution of scientifically informed holistic future consciousness. Science fiction encompasses the future of everything and can stimulate cosmic consciousness. Though inspired by the modern scientific vision of reality, science fiction can be traced to ancient myth, with which it shares many features. The distinction between science fiction and fantasy is relative rather than absolute. Science fiction and futures studies exist on a continuum, overlapping, interactive, and mutually beneficial. Science fiction is evolutionary in that it continually builds upon past ideas within its heritage. The scientific theory of cosmic evolution provides the fundamental narrative framework for modern science fiction.*

**Keywords:** Science fiction, future consciousness, cosmic consciousness, futures narrative, mythology, evolution, futures studies, evolutionary mythology

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## Science Fiction as a Way of Life

Growing up in the 1950s, I was drawn into the wondrous, strange, and sometimes frightening world of the future through the movies. At my neighborhood theatre, I watched—totally mesmerized—the classic science fiction movies, *The War of the Worlds*, *When Worlds Collide*, *The Time Machine*, and *Forbidden Planet*.

The cinematic experience of *The War of the Worlds* so excited my total conscious being that I was inspired to write a short story of aliens invading the Earth. I also created illustrations, designed costumes, and recruited some of my friends to play different roles in the story. We were going to “live the future,” a future of space ships, aliens, and great battles to defend the earth.

*The War of the Worlds* engaged all the dimensions of my conscious mind, exemplifying the

“total person immersion” that science fiction can generate. The movie stimulated my senses; excited my emotions; inspired my motivation to act; elevated my intellect and imagination; seeded my creativity; and provoked in me a desire to share this powerful experience with my friends. It gave me a sense of personal identity—I was going to be a writer of science fiction.

My fascination with science fiction has only grown over the years, and through my readings, study, and teaching I have come to the conclusion that:

*Science fiction is the most visible and influential form of futurist thinking in contemporary popular culture.*

Aptly illustrated through my experience with *The War of the Worlds*, I believe science fiction is so popular because it speaks to the whole person—intellect, imagination, emotion, motivation, behavior, and the senses; the personal, social, and cosmic; the secular and the spiritual; and our values, ethics, and aesthetics—stimulating and enhancing *holistic future consciousness*.

I define “holistic future consciousness” as the total set of psychological processes and modes of experience and behavior involved in our consciousness of the future. It includes our hopes and fears about the future; our planning, strategies, and goals; our futurist visions and stories; and our purposeful behaviors to create desired futures and prevent negative possibilities from occurring. It is the total *Gestalt* of our experience and engagement with the future (Lombardo, 2006a, 2011a).

Science fiction taps into all of this. It brings the future alive within our minds. It personally draws us into the fantastical possibilities of tomorrow. We experience the future along all the dimensions of human consciousness.

Indeed, for many people science fiction has become a total way of life—and a way of experiencing and creating the future. Fandom and the global science fiction community is an immense, highly diverse, and continuously growing association of groups and individuals, immersed in the gadgets, garb, iconic roles, imagery, art, paraphernalia, computer games, virtual realities, cinematic productions, archetypal characters, conventions and conferences, and literary works of science fiction (Clute & Nicholls, 1995).

An excellent example of this cultural phenomenon is the “Trekkies,” comically and vividly realized in the central characters of the TV show *The Big Bang Theory*. Aside from their enthusiastic involvement in the *Star Trek* subculture, the main male characters, Sheldon, Leonard, Howard, and Rajesh, are also active participants in the comic book/super-hero and gaming subcultures, two other dimensions of the science fiction community. They live science fiction, they cherish it, they dress it. They collect memorabilia, posters, and action figures; they attend conventions; and they regularly socialize through science fiction game-playing and TV-viewing. They dress in science fiction costumes (vicariously adopting the identities of science fiction characters). Sheldon adopts the garb of both Flash and Mr. Spock, the latter, at times, haunting him in his dreams. Sheldon’s ego-ideal is a combination of Flash and Mr. Spock, a synthesis of speed, science, and intellect. It is a standing joke that Sheldon’s friends think he is an alien. At times it seems that Sheldon believes so as well.

## Science Fiction as Futurist Narrative

A big part of the psychological power of science fiction can be found in its narrative form. Humans are psychologically disposed toward making sense of

themselves, the world, and the universe as a whole through stories. Through our narratives we give meaning and purpose to our existence; we create our personal identities through self-narratives (Damasio, 1999). Societies create a collective sense of identity and vision of the future through shared narratives, encompassing and integrating past, present, and future (Polak, 1973).

Science fiction, as narratives of the future, naturally resonates with the dynamic conscious flow of the human mind, giving our lives meaning, drama, and a sense of direction toward the future. Although not all science fiction deals with the future, its primary focus has been on the possibilities of tomorrow. In this regard:

*Science fiction can be defined as a literary and narrative approach to the future, involving plots, action sequences, specific settings, dramatic resolutions, and varied and unique characters, human and otherwise. Generally inspired and informed by modern science and contemporary thought, it is imaginative and often highly detailed scenario-building and thought experiments about the future, set in the form of stories.*

A good story about a possible future, with its drama, action, and sensory detail, is psychologically more compelling and realistic than an abstract theory, static image, depersonalized futurist scenario, or statistical prediction. An engaging narrative, involving sequential and causative action, brings a living presence and propellant energy to a futurist vision. Science fiction personally draws us into a rich vicarious experience of the future through its vivid and memorable characters. We live the story through the characters. All told, through science fiction narrative, we *live and feel the future* at a deep and intimate level.

## **Cosmic Consciousness and The Future of Everything**

A common stereotype, reinforced by the techno razzle-dazzle of science fiction cinema and special effects, is that science fiction is predominately about the future of technology and science. Moreover, this stereotype has historical roots. Inspired by the writings of H.G. Wells and Jules Verne, Hugo Gernsback in 1929 in his pulp magazine *Science Wonder Stories* coined the name “science fiction” to refer to a new entertaining literary genre that was also educational, teaching about the wondrous future possibilities of science and technology (Gernsback, 1911/1925; Clute and Nicholls, 1995).

Gernsback’s vision though was too narrow. Although informed and inspired by modern science, science fiction draws from both the physical and the psycho-social sciences, as well as other sources in contemporary thought. And clearly, it is not just *about* the future of physical science and technology. Both before Gernsback and afterwards, numerous “science fiction” writers have delved into the future of society, culture, ethics, the environment, madness and the human mind, war, the sexes (and sex), and even spiritual and religious topics. Throughout its history, all dimensions of the future have been explored in great depth and detail and from numerous perspectives by science fiction writers.

Take “A Rose for Ecclesiastes” (1963) by Roger Zelazny, a short story that challenges the popular stereotype of science fiction as technological extrapolation into the future. Though the narrative does feature some future technology its primary focus is psychological, cultural, and religious. The central character is a poet, a linguist, and a classical scholar, rather than a mad scientist. He is a literary genius,

assigned to Mars to study the language and culture of its indigenous population and ancient civilization. Set against this backdrop, “A Rose for Ecclesiastes” delves into the meaning and purpose of life; religious prophecy and fate; love and the weaknesses of the human heart; and the meeting of cultures from different worlds. It is a mystical and humanistic tale. And these qualities are not unique to this example.

I would propose that science fiction is about *the future of everything*. Of course it delves into future technologies, robots, and space travel, but it also explores not only psychological, cultural, and spiritual-religious issues and themes but also the psychological, social, cultural, and ethical *consequences* of scientific-technological future developments. For anything that has a future, science fiction gets into it.

Dan Simmons’s series of novels, the *Hyperion Cantos* (1989, 1990, 1995, 1997) powerfully illustrates how science fiction is about the future of everything. It also demonstrates how science fiction (when done well) can realize literary excellence, contradicting the view that the genre is juvenile in plot, characterization, and style. The language of *Hyperion* is rich, poetical, and expansive. Modeled on Chaucer’s *Canterbury Tales*, the first novel in the series tells the story of seven pilgrims journeying to the planet Hyperion, having been sent there by enigmatic forces, which include super-intelligent computers and mysterious personages within the Catholic Church. The pilgrims’ mission is to confront the Shrike, a giant metallic being covered in razor-like blades that is killing human settlers by the thousands and seems to come from the future. On the journey, the pilgrims—archetypal figures, such as a poet, a philosopher, a warrior, and a priest—tell their personal stories of how they came to this critical juncture in their lives.

The *Hyperion Cantos* spans three centuries, beginning in the twenty-ninth century. We find (as a sample) the following events and themes: the promise of immortality, which involves selling your soul to the Devil; a philosophical debate between a future Dalai Lama and the Grand Inquisitor; the reincarnation of the poet Keats within cyberspace; nano-technologically enhanced humans who live in outer space; a giant tree space ship and an even more gargantuan solar ring that is also a tree; the fall of human civilization and the rise to power of a corrupt Catholic Church; innumerable alien ecologies and forms of life and civilization; and the Second Coming—the mythic narrative of death and resurrection—realized through time travel. Oh, and the Second Coming is a girl.

The *Hyperion Cantos* is a complex vision of a possible future, covering all dimensions of human life—technological, scientific, psychological, social, ethical, cosmic, and religious. It is a grand narrative—a future of everything—inspired by classical literature, yet pointing toward an amazingly intricate and bizarre future.

Good science fiction, then, frequently creates fully realized, multidimensional visions of the future. The real future will be an interactive synthesis of all dimensions of human reality. John Brunner’s *Stand on Zanzibar* (1968), Kim Stanley Robinson’s *Red Mars*, *Green Mars*, and *Blue Mars* trilogy (1991, 1994, 1996), Neal Stephenson’s *The Diamond Age* (1995), and Ian Macdonald’s *River of Gods* (2004) are some additional examples of novels that envision rich, multidimensional possible future human societies.

The expression “the future of everything,” however, does not simply refer to all the different dimensions of the future—technological, environmental, social, psychological, and religious. It can also mean the “big picture” of existence and reality as a whole. “Everything,” in this second sense, implies a “cosmic

perspective.” A science fiction writer may talk about the future of the universe. And given that science fiction, as narrative, places specific characters within its imaginative settings, we may find ourselves vicariously contemplating our own place in the universe. Part of the depth of science fiction is that it can provoke within us states of “cosmic consciousness,” of pondering the nature of the universe and our place within it.

Consider “Surface Tension” (1952) by James Blish. The setting is a puddle of water on a distant planet, sometime in the future. In this puddle live tiny humanoid creatures. As far as these creatures know, their puddle of water is the entire universe. The surface tension of the puddle has prevented them from breaking out of the puddle, to see if anything exists on the other side. But among these tiny creatures, one group has constructed a rocket ship, to blast through the surface of their puddle and see what lies beyond. Many of the other tiny humanoid creatures feel this is a foolhardy idea; the puddle is the universe, and why attempt such a dangerous mission? The adventuresome group remain undaunted; they blast off from the bottom of the puddle, break through the surface, and land on the surrounding ground encircling the puddle. They exit their ship, look up, and see the brilliant panorama of stars in the night sky. They are bedazzled—the universe extends vastly beyond anything they realized. They experience the awe and wonder of expanded cosmic consciousness.

“Surface Tension” is an allegory; we are the tiny humanoid creatures living in a metaphorical puddle that we incorrectly identify as the entire universe. And the title refers not just to puddles but to the constraints within our minds. We are comfortable and protected in our limited worldview, and have no inclination to extend ourselves, physically or mentally, to what may lie beyond. Only a few of us have the courage and imagination to transcend the constraints of the normal and the immediate here and now. In breaking through the veil of appearance, the courageous and imaginative ones can now see themselves more accurately and deeply—can place themselves in the truer, more encompassing big picture of things.

On the grandest of scales, however, no one surpasses Olaf Stapledon in taking the reader on colossally imaginative adventures that explore the future evolution of the human mind, society, ethics, philosophical enlightenment, and human transcendence. With this Oxford philosopher and science fiction writer, we ultimately journey on a cosmic quest in search of the meaning of the universe and the existence of God. Probably no writer in the West has created such an expansive and profound vision of the future of everything.

Olaf Stapledon’s novels, *Last and First Men* (1930) and *Star Maker* (1937), propel us on journeys that progressively extend outward, covering billions of years into the future and the entire spatial expanse of the universe. Stapledon’s fundamental narrative is the cosmic evolution of intelligence and communal consciousness; we see ourselves within the biggest picture imaginable to the human mind.

Other more recent science fiction novels that realize cosmic consciousness on the future include Stephen Baxter’s *Xeelee* (1997, 2010) and *Manifold* (2000, 2001, 2002) series; Greg Egan’s *Permutation City* (1994) and *Diaspora* (1997); and for a comic excursion into the farthest reaches of space, time, and artificial intelligence, Cory Doctorow’s and Charles Stross’s post-Singularity novel, *The Rapture of the Nerds* (2012).

## The Nature and Value of Myth

*Science fiction is the mythology of the future.*

Many historical tributaries contributed to the development of modern science fiction, including utopian thinking, Gothic romance, the birth of modern science and astronomy, and the Enlightenment philosophy of secular progress, but of special note are science fiction's roots in ancient fantastical and mythic tales (Lombardo, 2006b; Roberts, 2005). Though modern science fiction (to a degree) broke free of the supernatural theories of reality embodied in ancient myths, the genre has retained many mythic features at psychological, literary, and social levels. In contemporary times, science fiction serves many of the same functions that ancient myths provided for humanity.

To explain the connection of myth and science fiction, let us first examine the nature of myth. Within the modern scientific era, ancient myths, prophecies, and fantastic tales (including religious visions), are often seen as lacking scientific plausibility, consisting of nothing but wishful and magical thinking, uninformed fantasy, and superstition, rather than being grounded in fact.

But if we turn to the modern scholar of myth, Joseph Campbell, we find a more positive view of myth. In his book *The Power of Myth* (1988), he asserts that through myth, "... what we're seeking is an *experience of being alive...[to] feel the rapture of being alive*" (p.3). According to Campbell, myth facilitates this heightened level of experience, this rapture of personal existence.

Additionally, he states that: "Mythology is ... the *song of the imagination...*" (p.22). Mythology, for Campbell, is aesthetic, lyrical, and expressive, key qualities in the fullest and deepest expression of human consciousness and our experience of life. A song is a celebration, a romance, a revelation and expression of beauty.

Campbell further suggests that one of myth's main functions is a "...*mystical function...realizing what a wonder the universe is, and what a wonder you are, and experiencing awe before this mystery. Myth opens the world to the dimension of mystery, to the realization of the mystery that underlies all forms...If mystery is manifest through all things, the universe becomes, as it were, a holy picture. You are always addressing the transcendent mystery through the conditions of your actual world*" (p.31). Myths keep our minds open, through awe and wonder, to the realms of the possible, the undiscovered, the amazing, and the transcendent.

As one final quote, Campbell argues, "... myths offer *life models*. But the models have to be *appropriate to the time* in which you are living and our time has changed so fast that what was proper fifty years ago is not proper today...." (p.13). For Campbell, we need myths relevant to the concerns and ideas of the modern world.

We also need mythic characters that provide role models. Though ancient myths can be criticized for personifying the origin and workings of nature and the cosmos, such personifications of reality facilitated a psychological resonance between the myth and the human mind. One of the key factors behind the psycho-social power of any narrative is the inclusion of characters within the story; myths, as narratives with characters, possess this inspirational power.

A key concept that Campbell invokes in understanding myths is the "archetype." An archetype can be defined as "an original pattern or model represented by some image, persona, or symbol." An archetype is an anchor point of meaning, associated with a recognizable icon. The psychologist Carl Jung, whom Campbell

cites, understood an archetype as a deep, fundamental, and universal idea within the human mind. Archetypes are primordial units of meaning, basic to the structure of human understanding. For Jung (1964), the human mind makes sense of the world in terms of archetypes. For Campbell, there are common personae, themes, and narrative structures in myths from across the world. These pervasive units of meaning are archetypes. Archetypal patterns in myths express universal and deep principles in human understanding and our experience of the world.

So, introducing a definition of myth (*Free Dictionary*) in resonance with Campbell: A myth is “a traditional, typically ancient story...that serves as a *fundamental type in the worldview of a people*, as by explaining aspects of the natural world or delineating the psychology, customs, or ideals of society.” In this sense a myth is a story, involving iconic characters, which expresses fundamental or archetypal beliefs and values within a society or human mindset. A myth is what a particular culture or mindset *believes* is most deeply true and most important and valuable.

Relative to our modern beliefs and values, we might see ancient myths as having little validity or life value, but that doesn't mean that we don't have our own myths (modern in conception), as defined above. The modern world, incorporating various theories of the past, present, and future and the nature of reality, frequently inspired or informed by contemporary science, has its grand narratives that express its deepest values and beliefs (Lombardo, 2006b). We have stories explaining where we have come from and pointing toward where we are going, and we have various archetypal units of meaning and heros who represent key principles and values expressed through these stories. These grand narratives inspire us toward the future (Polak, 1973). Such modern grand narratives are mythic.

Building upon such considerations, I propose the following set of characteristic features and values of myth.

- Myths are *narratives*. The narrative resonates with a fundamental mode of understanding in the human mind—conceptualizing reality in terms of stories. Narrative myths have deep psychological power.
- Myths present a *dynamic vision* of reality, involving sequences of events, and at times, connecting past, present, and future. Myths ask the big questions: Where have we come from? Where are we going?
- Myths possess a *truth value*. The story as a general form of describing reality has more truth value than an abstract theory. Reality is events, processes, and interactive forces generating consequences. Moreover, even if a myth may not be literally true, it may capture some fundamental archetypal theme regarding human life.
- Myths contain *personifications*. We vicariously experience the narrative events through the eyes of the characters.
- Myths express *archetypal* themes, containing general icons and symbols representing fundamental ideas or principles. Myths penetrate into the deep and most general intuitions and meanings within the human mind.
- Myths are frequently *cosmic* in scope. Myths aspire to apprehend profound truths about life, the universe, and everything. Although myths educate on the *nature of reality*, myths also revel in the *great mysteries* of reality and existence, expressing both awe and wonder.

- Myths often postulate *fantastical realms and fantastical beings*. Expressive of the creative power of human imagination, myths frequently transcend the commonplace and the mundane, exploring the vast and strange possibilities of existence.
- Connecting the cosmic and the personal, myths give *personal meaning* to life. Mythic characters are frequently situated within cosmic settings, and we vicariously experience the universe and feel ourselves engulfed within it through such characters.
- Myths have an *emotional dimension*. We fear, we hope, we are thrilled and disappointed in our experience of mythic narratives. This emotional dimension is a significant part of the participatory quality of myths.
- Myths are often *motivational and inspirational*, providing stories that propel us into action and direct us in life.
- Myths often provide *ethical guidelines*. Mythic characters can be either positive ethical exemplars or negative cautionary ones. Myths often have a prescriptive dimension, as well as an explanatory dimension.
- Frequently, there is an *aesthetic dimension* to myths. As literary works, they possess beauty, rhythm, harmony, color, and grace. Moreover, mythic narratives are often coupled with aesthetic visualizations (art and sculpture). Part of the inspirational force of a myth derives from its beauty.
- Through various rites and rituals, myths provoke *personal immersive participation* in the acting out of the myth. Invariably, religions require participants to act out their key myths as part of their active identification and inclusion within the group.
- Numerous *icons*, totems, images, symbols, and objects of worship, having deep meaning and significance, often archetypal in nature, are associated with myths. This is part of the sensory-perceptual dimension of myths.
- In summary, stimulating the heart, intellect, imagination, and desire, anchoring personal and social identity, and provoking action and immersive participation, myths generate *holistic consciousness*. If the myth contains pivotal futurist themes, then it generates holistic future consciousness.

## The Mythic Dimensions of Science Fiction

Much of science fiction shares with traditional myths all or at least some of the above features. Science fiction is narrative, dynamic, and filled with a distinctive and colorful assortment of characters. One of the key qualities that makes for good science fiction is the exciting and engaging nature of its stories and iconic and often bizarre characters.

As literature, science fiction aspires toward aesthetic standards of beauty and literary style. The artistic dimension of science fiction, in its unique and imaginative fashion, strives for sensory beauty.

Science fiction is filled with icons, symbols, images, and totems, which include, as illustrative examples, the robot, rocket ship, ray gun, and alien. For many science fiction fans, the various icons have become almost objects of worship.

Science fiction is frequently cosmic, generating wonder and a sense of mystery; also it is populated with fantastical settings and characters. Science fiction continually stretches the imaginative limits of both these dimensions. In science

fiction we explore the immense reaches of the universe. And, guided by imaginative extrapolations of science, science fiction has created the most incredible assortment of strange and amazing creatures and characters within the history of human thought.

Especially in so far as science fiction is about the future, it is motivational, providing both preferable visions of the future to aspire to, and warnings and negative scenarios to avoid. Science fiction generates action in its fans and readers, provoking a way of life and life direction. The utopian-dystopian polarity also clearly taps into the ethical dimension, identifying good futures and bad futures. Science fiction gets us to ponder over what is good and what is bad, for it is not always so clear once we step out of the constraints of the commonplace.

Science fiction embodies a plethora of archetypes. We find the archetypal themes of death and resurrection; the hero's journey toward enlightenment; the struggle of order versus chaos; mother and father figures; good versus evil and war versus peace; ignorance versus enlightenment; and evolution and transcendence.

What "truth value" can be found in science fiction? Many science fiction writers and commentators have argued that the purpose of science fiction is not to predict the future (Pohl, 1996). Historically this argument fails, for predicting the future is exactly what many science fiction writers have attempted to do. Prediction does not have to be exact; rather, a plausible narrative about the future is presented, highlighting key trends that the author believes are occurring within the contemporary world. The story presents a possible narrative scenario for what may happen in the future if such trends continue. Modern science fiction was kickstarted by both the positive futurist expectations and predictions of the Age of Enlightenment, and the negative and fearful counter anticipations of the future in the Romantic movement.

Also, just as a traditional myth expresses something fundamental about human existence, science fiction can articulate deep truths about human life and the universe. The great science fiction writer Arthur C. Clarke argued that science fiction, more than any other form of literature, grapples with the most basic issues and questions of reality; it frequently penetrates beyond the surface and the immediate here and now to deep and expansive truths and fundamental questions.

Of course science fiction stories can vary significantly in imaginative creativity, intellectual depth and scope, and profundity of insight, but good science fiction generates holistic future consciousness, engaging the intellect, imagination, emotion, motivation, and immersive participation and action. Moreover, science fiction, when it imaginatively and thoughtfully deals with hypothetical futures, works toward further evolving holistic future consciousness, since it both expands our imagination about the future and provokes us into thinking and rethinking our ideas on preferable and non-preferable futures.

*Close Encounters of the Third Kind* is a good example of the mythic shining through in a science fiction setting. The movie contains the following mythic narrative themes: Beings from a "higher realm" communicate with humans, transmitting a mysterious message and psychically implanting various enigmatic symbols in human consciousness; the human characters are drawn into a challenging journey of adventure and discovery that eventually leads to enlightenment and transcendence; metaphorically, God calls out to humans asking us to follow Him, promising cosmic enlightenment and ascension into a celestial realm; at the end of

the saga, we see “heaven” (the inside of the resplendent alien spaceship), and gazing in emotional rapture upon such magnificent overpowering beauty, we experience awe and wonder.

A second excellent example is *2001: A Space Odyssey*, which embodies the mythic theme of death and resurrection. Through the use of mysterious monoliths (iconic objects of worship), godlike alien beings from outer space guide humanity and our technological evolution. Eventually we are led on a journey to the farther reaches of the universe through a streaming and bedazzling wormhole to observe the accelerated aging and death of the central human character, who is then “resurrected” as a celestial and luminous Starchild. This, the conclusion hints, will be the next step in human evolution, from physical creatures to ethereal beings of light. Such has been the mythic hope of humanity through the ages—resurrection and “spiritual” rebirth—except in *2001* it is realized through advanced technology, space travel, and hyper-evolved aliens.

In an article in *The Futurist*, “New Myths for a New Millennium,” Stanley Krippner and his co-authors (1998) argued that myths are critical to the human mind and human society and that we need new myths for the future that make sense within a modern mindset. Such new myths can be found in the stories of science fiction. In fact, with the emergence of the cinema in the last hundred years, we can create and present our myths in a multi-sensory fashion. The power of modern special effects allows us to produce and share highly realistic and immersive simulations of fantastical and futuristic possibilities.

Olaf Stapledon clearly understood the importance of myth in our contemporary times, as well as the deep connection between myth and science fiction. To quote, from his novel *Last and First Men* (1930) (p.9):

*“The activity we are undertaking is not science, but art...Yet our aim is not merely to create aesthetically admirable fiction. We must achieve neither mere history, nor mere fiction, but myth. A true myth is one which, within the universe of a certain culture ... expresses richly, and often perhaps tragically, the highest aspirations possible within a culture.”*

When science fiction realizes such “highest aspirations” and deepest beliefs and insights, and even imaginatively and intelligently pushes beyond such beliefs and values, then science fiction creates new myths for a new era that enlighten us on our journey into the future.

In summary, science fiction is the mythology of the future. Its central focus is the possibilities of the future, encompassing all aspects of the future. At its best, being informed and inspired by contemporary thought, science, and cutting-edge speculation (the ideas and hopes of a culture), it creates myths about the future that will motivate us in the ongoing creation of the future. Bringing with it the psychologically holistic features of myth, it facilitates the development of holistic future consciousness, engaging all the dimensions of the human mind in imagining, visualizing, feeling, and thinking about the future, as well as acting on it.

## The Relative Distinction of Myth, Fantasy, and Science Fiction

The one significant, albeit relative, difference between traditional myths and science fiction is that the latter is informed by contemporary belief systems

regarding the nature of reality—in particular, what is scientifically plausible—rather than being based on ancient and often supernatural theories of reality.

Ancient myths offered visions of the future that invariably involved supernatural forces and deities. In contrast, with the emergence of modern science fiction, the new futurist visions were derived from the European Enlightenment view that through science, technology, and reason the future could be different—and through human effort, better—than the past. The future became informed and inspired by science and secular thought (Lombardo, 2006a). Modern science challenged the validity of theories of reality found in ancient myth providing a new vision of what was plausible and real, and science fiction embraced this new scientific theory of reality (Lombardo, 2006b).

This difference, though, between ancient myth, fantasy, and religion and science fiction has always been only relative rather than absolute. Although many advocates of the new scientific world view believed science represented a clear advance over traditional religion and myth, many others combined the new scientific ideas with religious and mythic thought (Lombardo, 2006a). Newton included God in his theory of the universe. Similarly, various notable early science fiction writers, such as Johannes Kepler (*Somnium*, 1634) and Francis Bacon (*New Atlantis*, 1627), mixed together scientific and religious/mystical/supernatural ideas, as did the popular astronomer and science fiction writer Camille Flammarion (1872/1897, 1893-1894), who combined contemporary scientific thinking on biological evolution, physical optics, and astronomy with immaterial spirits, reincarnation, and mental teleportation through the cosmos.

Moreover, science fiction writers have often challenged the boundary of the scientifically plausible and implausible. Science fiction exists in that outlying territory of human thinking, at the boundaries of the mysterious and unknown, where what is plausible and what is real are, to degrees, uncertain and open to debate and transformation. Part of the appeal of science fiction is to explore the “far out” expanses of existence and human imagination. Isn’t pushing the envelop of plausibility a strength of science fiction? As the great early pioneer in rocketry, Robert Goddard, stated, “It is difficult to say what is impossible, for the dream of yesterday is the hope of today and the reality of tomorrow.”

Further, science fiction writers do not always even attempt to make their stories scientifically plausible. Edgar Rice Burroughs and E.E. “Doc” Smith were two of the most popular twentieth-century science fiction writers. But Burroughs’s stories were filled with mystical and magical ideas. John Carter, the hero of his Mars novels, magically teleports back and forth between the earth and Mars (Burroughs, 1912, 1913, 1914). The immensely influential “space operas” of “Doc” Smith, *Skylark* (1928, 1930, 1935, 1965) and *Lensmen* (1934, 1937-1938, 1939-1940, 1941-1942, 1947-1948, 1950), contained numerous descriptions of outlandish technologies in which Smith, as he explicitly acknowledges, let his imagination “run wild.”

Alfred Bester’s highly regarded *The Demolished Man* (1953) and *The Stars, My Destination* (1956) postulate various psychic powers, including mind reading and psychic teleportation, yet there is little, if any, scientific evidence for such abilities.

As two examples from the cinema, *Star Wars* and *The Matrix* combine a plethora of scientific technologies with mystical-spiritual-supernatural theories of reality. What scientific sense can we make out of the “force,” or the capacity to control matter with the mind? Can the dead rise again in a scientific universe?

As Roberts (2005) argues, there has existed in modern times a tension and ambiguity between fantasy (inclusive of magic and the mystical, the metaphysical and supernatural, and the sacred and divine) and “hard science fiction” that is rigorously attentive to the principles and restrictions of empirical and mathematical science. This tension creates a continuum within science fiction literature, allowing for—variously—clear cases of pure fantasy, clear cases of pure high-tech science fiction, and many cases falling somewhere in between, where writers blend the scientific and mystical. In the process, they may either stretch or ignore the limits of the scientifically plausible or intelligible.

Movies, such as *The Matrix* highlight another dimension of tension between science and science fiction. Within modern science fiction, science with its visions of secular and technological progress, has also provoked fear and apprehension. Emerging out of the Gothic and Romantic movements, (the philosophical adversaries of Enlightenment positivism), we find frightening tales such as *Frankenstein*. Whether hopeful or frightening, modern science fiction frequently critically evaluates and grapples with the scientific vision of reality and secular progress. Do we believe that the scientific vision covers the totality of what is true or real? Do we believe that embracing science enhances or threatens our humanity and even our existence?

Still, it is important to restate the pivotal significance of the scientific vision of reality within science fiction. With the emergence of modern scientific astronomy, for example, a vastly more expansive and richly detailed vision of reality opened up to human consciousness, stimulating human imagination. There were other worlds in the universe. Could we travel to such worlds and by what means? Were there inhabitants and strange civilizations on these worlds? Perhaps they would visit (or invade) us? Such considerations fueled early science fiction. Further, with each significant advance in either science or scientifically grounded technologies, science fiction writers were provided with a host of new ideas and possibilities for their narratives. Such new developments naturally provoked both anticipatory hope and fear, but the ever evolving scientific universe continually fueled the human imagination. Even when the extrapolations from science were highly questionable, such as in “Doc” Smith, it was science that provided the territory of ideas in which Smith’s imagination could “run wild.”

## Science Fiction and Futures Studies

Another key issue concerning the distinctive nature of science fiction is its relationship with futures studies. I would propose that science fiction and futures studies are two relatively distinct expressions of future consciousness (Lombardo, 2006b) that exist on an interactive continuum.

There are many different theoretical perspectives, approaches, and methods within the general arena of nonfiction futurist thinking (or futures studies) (Bell, 1997; Lombardo, 2006b). And the complex territory of futurist ideas and methods can interact with science fiction in numerous ways.

Consider H. G. Wells, the father of both modern science fiction and modern futures studies (Wagar, 2004). Wells embraced both fictional and nonfictional approaches to the future, sometimes weaving the two together, as in *The World Set Free* (1914) and *The Shape of Things to Come* (1933); both novels are part fictional

futurist narrative and part theoretical argument about preferable and non-preferable futures. Though his writings can be roughly divided into science fiction versus futures studies, in Wells's mind, each approach informed the other. He thought out the scientific implications of the theory of evolution as a prelude to writing his classic novels *The Time Machine* (1895) and *The Island of Dr. Moreau* (1896). He studied human history as a prelude to writing *The War of the Worlds* (1898), *The War in the Air* (1908), and *The Sleeper Awakes* (1899/1910). Wells critically analyzed the flow of history and contemporary global society and articulated a rich and systematic preferable vision for the future of humanity and wove these considerations into his science fiction, in the form of narrative metaphors, dystopias, and utopias.

Since Wells, numerous futurist writers have explored both science fiction and futures studies, drawing ideas from both domains, cross-fertilizing and synthesizing themes and principles. Alvin Toffler advocated the teaching of science fiction as a valuable educational exercise for futurist thinking; the science fiction writers Arthur C. Clarke, Isaac Asimov, Frederick Pohl, and David Brin have all have written nonfiction on the future, bringing science fiction into their discussions. Asimov, in his *Foundation* (1982) series, delves into theoretical considerations regarding historical prediction as a grounding for his fictional speculations. Brin presents, in his science fiction novel *Existence* (2012), a superb narrative synthesis of ongoing research in *SETI* and a fictitious future encounter with aliens. As the science fiction writer Thomas Disch, states, in his book *The Dreams Our Stuff is Made Of* (1998), science fiction has deeply influenced the development of futurist visions and ongoing advances in technology—arguing that “science fiction has conquered the world.”

As a prime example, it is impossible to disentangle contemporary thinking on the future evolution of computers, the Internet, virtual reality, and artificial intelligence, from cyberpunk science fiction. Cyberpunk is both a sub-genre in science fiction and a subculture and way of life regarding the future. William Gibson's seminal cyberpunk novel *Neuromancer* (1984) not only anticipated but helped to create a techno-futurist mindset within contemporary pop culture. Looking at the nonfiction writings of Rudy Rucker in his *Mondo 2000* (Rucker, Sirius, & Queen Mu, 1992) and his amazingly creative, crazy, and pyrotechnical display in his science fiction epic *The Ware Tetralogy* (2010), the ideas and themes from his fiction and nonfiction blend together into a phantasmagoric vision of the future.

Moreover, although science fiction tells stories about the future, these stories often embody thought experiments about the future. Science fiction writers ask—and raise and debate within the stories—such questions as, “What if?”, “If this goes on, then what?”, “Is this future possibility plausible?”, and “Is it a good thing or a bad thing?” Science fiction ponders and speculates on the possibilities of the future, forcing the reader to think along with the writer. This is more than simple story telling; it is an exercise in imagination, critical thinking, hypothesis testing, trend extrapolation, scenario building, ethical evaluation, and even planning, as it pertains to preferable futures, all of which are aspects of futures studies.

Perhaps the most powerful illustrations of the merging of science fiction and futures studies are Olaf Stapledon's novels *Last and First Men* (1930) and *Star Maker* (1937). In the opening chapters of the first novel, we find Stapledon analyzing the contemporary social-political world of the early 1930s; we follow his discourse as he

thinks out and predicts where present conditions will lead in the immediate future, identifying complex causes leading to complex effects. The global analysis and futurist speculations evolve into an ongoing narrative of further consequent events and transformations, chronicled across millennia. As he describes this ongoing “future history” of humanity, including social, political, environmental, scientific-technological, ethical, psychological, and spiritual developments, thus generating a “future of everything” narrative, he also provides philosophical reflections and evaluations on the flow of events. He describes the numerous hypothetical values driving future human evolution and assesses their ethical and practical worth. Is this science fiction or futures studies? It is both; the distinction of the two approaches is totally blurred.

In *Star Maker*, Stapledon adopts a similar philosophically reflective narrative approach, but now he chronicles the future history of the evolution of intelligence and sentient societies across the cosmos. Further breaking down the distinction of fiction and nonfiction, *Star Maker* can be viewed as a universal ontology and ethics of existence presented in a speculative futurist grand narrative. It is a theory of reality, time, and the good conveyed as a story.

The general theory of reality that Stapledon applies to his vision of the future of humanity and the cosmos is evolution. Cosmic evolution, a scientific theory that provides a descriptive and explanatory pattern to the flow of time, past, present, and future, is the narrative sequential structure within both novels.

Science fiction presents diverse visions, reflecting different cultural, ethical, political, and philosophical theories and mindsets. Such science fiction visions can be compared and evaluated regarding originality, ethics, credibility, and cosmic perspective. How plausible, realistic, and convincing is the vision? Are the ethics and values expressed in the story sound and reasonable? How well and in what ways do different stories and movies enhance our holistic future consciousness? The author has proposed a set of evaluative categories for assessing the quality of science fiction novels, including scope and originality of imagination, coherence of ideas, scientific/technological/philosophical intelligence, and reader engagement (Lombardo, 2015). Futures studies, broadly defined, also provides an extensive set of ideas, principles, and methods for describing and evaluating, practically, ethically, and culturally, science fiction visions.

## An Evolutionary Mythology of the Future

*“The future ain’t what it used to be, and it never was.”*

*Anonymous*

As a final major theme, bringing to center stage evolutionary thinking, on what basis do I define science fiction as the “evolutionary mythology of the future”?

To begin, science fiction is a continually evolving genre of futurist themes, scenarios, and thought experiments, where new writers build upon the heritage of great works of the past. Science fiction has an evolutionary history. Informed by its evolving heritage of consciousness-expanding possibilities, science fiction involves the ongoing, purposeful evolution of holistic future consciousness.

Also, from early on, science fiction has grappled with understanding evolution and progress. Both the Enlightenment philosophy of secular progress, and the

Romantic recoil, with its apprehensions over scientific and technological change, laid the modern seeds of science fiction. Together they express the double-edged sword of fear and hope regarding change in the future. The theory of evolution further expanded the vistas and ongoing debates within science fiction over where natural and social change are heading in the future.

Moreover, the central contemporary scientific narrative is cosmic evolution: The universe as a totality, including humanity, is a result of evolutionary processes. In the last hundred years, evolution has become an increasingly influential and all-encompassing way of thinking about reality in both science and philosophy (Chaisson, 2005). Moreover, evolution and progress have been woven together in modern philosophy and futurist thinking (Kelley, 2010; Lombardo, 2006a, 2011b, 2012; Phipps, 2012).

In so far as science fiction deals with the scientifically plausible, evolution provides the foundational scientific framework in which science fiction is written. Science fiction writers, since at least the time of H.G. Wells, have pondered the meaning of evolution as a framework for understanding both the past and the future.

Evolution is, however, a double-edged sword; there is becoming and passing away; order and chaos; creation and destruction, all enveloped in a sea of natural law and irreducible uncertainties. These dualities and tensions in the cosmic evolutionary narrative provide a dynamic context for creating drama and adventure within science fiction. Aside from Wells and Stapledon, science fiction writers such as Camille Flammarion in *Omega: The End of the World* (1893/1894), A.E. van Vogt in *Slan* (1940), Stephen Baxter in *The Time Ships* (1995) and *Evolution* (2003), Greg Bear in *Darwin's Radio* (1999), Robert Sawyer in *Hominids* (2002), Charles Stross in *Accelerando* (2005), and Robert Silverberg, in his psychedelic trip in human evolution, *Son of Man* (1971), have explored the evolution of the universe and humankind's evolutionary journey and potentialities within it.

Sampling the ongoing development of visions of the evolution of humanity within science fiction, consider the following three novels: H.G. Wells' *The Time Machine* (1895), where future humanity is divided between the idyllic, and fragile Eloi and the subterranean, and cannibalistic Morlock; Olaf Stapledon's *Last and First Men* (1931), which chronicles the rise and fall of eighteen different species of humans, many of them being intentionally and technologically facilitated creations of the previous species; and lastly, Greg Egan's *Diaspora* (1997), where human consciousness uploads into both robotic bodies and virtual minds of immense power and intelligence, and goes in search of the riddles of the cosmos. Across these novels, we find ever evolving visions of humanity's future as successive generations of science fiction writers purposefully incorporate new ideas from science and philosophical thought.

In these three illustrative novels, the very future of humanity is conceived in evolutionary terms. Our future is evolution, and our understanding of this process and its possible trajectories itself is evolving. In Wells's novel, social stratification and differential environmental adaptation generate human evolution; in Stapledon, environmental adaptation, purposefully applied biological and scientific techniques, and the intentional selection of philosophical and psychological ideals drive evolution; and finally, in Egan's novel, artificial intelligence, robotic engineering, and the creation of specialized and highly enhanced virtual realities facilitate human evolution. Our understanding of evolution, and how it applies to ourselves, is

evolving. We are purposefully evolving our evolutionary vision of humanity. Hence, science fiction is the evolutionary mythology of and for the future because:

- Science fiction is an accumulation of ideas and reflections about the future. Science fiction self-reflectively builds upon this heritage, drawing from an ever-evolving “think tank” about the future and reality.
- Science fiction, in so far as it is informed by contemporary science, conceptualizes reality, now and into the future, in evolutionary terms. Scientifically informed science fiction sets its narratives in an evolutionary universe.
- As a narrative mode of holistic future consciousness, science fiction is a significant developmental expression of the purposeful evolution of evolution. Humans engage in purposeful evolution, throughout history attempting to improve upon their nature and their conditions of existence. Humans continually attempt to “evolve” their minds and capacities, and in so doing, improve their abilities to more effectively and wisely change reality toward desirable ends (Lombardo, 2009, 2014). In regards to this general trend, evolution is self-consciously enhanced and accelerated through science fiction. As a narrative think tank about the future, science fiction helps to advance our own efforts to purposefully evolve ourselves in preferable directions.
- Science fiction, being both self-reflective and a mode of holistic future consciousness, is engaged in the purposeful evolution of holistic future consciousness. Throughout human history, future consciousness has evolved (Lombardo, 2006a), and in our present times, science fiction is significantly contributing to this ongoing evolution.

In summary, science fiction compels us to feel the future as well as to think about it. Its archetypal, mythic, and cosmic qualities, informed and inspired by modern science, technology, and philosophical thinking, provide a medium for the ongoing debate and creation of futurist myths to guide, inspire, and warn us about the multitudinous possibilities of the future—science fiction is *about the future for the future*.

Science fiction writers have envisioned the evolution of humanity, life, and the cosmos as a totality—a comprehensive evolutionary future of everything—and these visions continually clash, diversify, and evolve. Viewed as a whole, science fiction is the evolutionary mythology of the future, envisioning our possibilities of future evolution, even as it, too, evolves in the process.

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