

## CREATIVE PROJECT RESEARCH PROPOSAL: SURP

### *Revolution; Tales of the Genetic Surgeons*

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#### Project and Purpose

On June 26, 2000, researchers in London announced the completion of a rough draft of the human genome sequence. On that day, President Bill Clinton called it the, "...most wondrous map ever produced by humankind." Since then, genome blueprints for several species from the Plant and Animal Kingdoms have been completed. From these successes have sprung many hopes for finding solutions to problems facing the human race and our Earth. There have also been some concerns. The first is, *to what end are we playing with our own building material?* From this, deeper questions follow on the nature of life, creation, and existence. For, when the human being is able to reconfigure his world, his animals, and himself, is the human being not becoming all-powerful? The purpose of this project is to investigate, visualize, and develop a book exploring the various possible results of genetic engineering research being conducted today.

Can genetic engineering be what saves the human race? If we are to revolutionize the world into a more peaceful and sane place, would the changes have to come from within our hearts and minds? Accordingly, is evolution –the adaptation of our species to eschew aggression and violence – our best chance? This book discusses scientifically-engineered evolution, and asks if it is safe to force changes, while also realizing that some of these changes will produce magnificent results. Somewhere, in a blend of our optimism and anxiety, our children's future will arrive. This collection of interrelated short stories intends to deal with a world twenty-five years from today – a future at once gifted and plagued by the harvest sowed with current research in the field of Genetics.

Many topics under the banner of genetic engineering are worth examining. Certainly, some of these tales might depict mishaps. For example, corn grown to cook itself might interact with beer made from super-abundant hops...and the two food companies haven't foreseen what might happen when their products are consumed together. Though the effects of bioengineering might be global, the stories which best reflect its influence are about individuals. Such a story about the bioengineering of food might depict thousands of people suffering from the miscalculation, but "Get 'em While They're Hot" focuses on one man who makes the mistake of drinking a beer with his TV dinner. It is also a significant task to imagine global changes to the environment when engineered seeds fail to stay within designated boundaries. How might such changes affect individuals? In this vein, a disturbing tale called, "In The Woods" finds a pair of extreme skiers ensnared by the most unusual trees and their symbiotic partners.

Still, this book does not seek to portray genetic engineering as evil. Rather, it is like countless human endeavors, with a range of results as broad as the people who live them. Some of the results are heartwarming and hopeful. A woman faces seeing an old love at her high school reunion. Thanks to the help of a genetic surgeon, she meets

him appearing the way she had decades earlier. “Cinderella Cynthia” gives every aging person hope that inner beauty will find a way to shine in the best possible packaging. Other stories pose questions of ethical responsibility in the face of success with genetic engineering. What would it mean if cigarettes no longer killed, or a new heart could be grown for a baby born with an atrial septal defect? On a lighter note, we learn that Elvis remains alive in several incarnations performing nightly on the Las Vegas Strip. It is startling to see what genetic surgeons might build from a sweaty old towel.

On a more serious note, a famous genetic surgeon and researcher, Dr. Carrie “Doc” Reader-Jameson, finds a way to inhibit the most destructive aggressive tendencies in the human breast and tests her success on a group of captured terrorists in “Three-Point Turn.” There is a theory presented often in Science Fiction literature that humans need a certain amount of aggression to survive and prosper. Contrary to that, these stories point out that genetic alterations can aid humans to find peace so that the world prospers significantly. Dr. Jameson is a recurring character in several stories, and her work offers help to many, while she struggles to find solutions in regard to her own son’s genetic issues.

One important aspect of the book is the way it deals with re-engineering of humans. What if our world becomes so polluted that the only way to survive it is to alter our own physical needs? Can we create humans who thrive in a poisonous atmosphere and swim heartily in a toxic sea? In “Achilles’ Godchild,” there may be unexpected results with these attempts to solve our ecological problems. Also, our biggest challenge in conquering space is the nature of our biology. Humans simply fare better in an environment containing gravity, moderate sunlight, limited radiation, and fresh food. What if humans were engineered to live in space, but the tradeoff would be that these new “explorer-humans” would die if they spent time on Earth? “Hailing Frequencies” will investigate the emotional ramifications of homesickness versus the need to explore, and the interaction of these conflicting emotions as they play out among various characters. Such physical, emotional and social needs are all parts of what makes us human. Or, are they? Fiction is a valuable counterpart to ethical and even technical or scientific work around genetic engineering precisely because it incorporates a range of perspectives and engages the reader, as scientist or layperson, in reflection on the question of what a human being actually is.

A connecting “spine” tells the story of a woman who finds records of these and other tales and the entire book is told in testimony. The stories mentioned above and several more have been drafted or planned, but none have been perfected. I need the opportunity to spend time researching other works along these lines, interviewing professors in various scientific fields related to these stories, and attending lectures as they are presented. Once completed, this book will present an overall view of our world in twenty-five years, and the results of scientific research being conducted today.

#### Objective and Significance of the Project:

REGARDING *Re*volution; *Tales of the Genetic Surgeons*:

The intent of these stories is twofold. First, I plan to explore the boundaries of human experience resulting from human manipulation of the planet’s various gene pools. Second, I plan to explore blended structure of short stories, some with characters and events interwoven with other stories in the collection. At what point is a

story able to stand alone? At what point does it fall to the level of “chapter” in a larger text? Can a series of connected stories paint as complete and compelling a picture of 21<sup>st</sup> Century post-genetic surgery as a more common form, a novel? Can this form of presentation offer something which a novelistic approach would lack?

Ray Bradbury often discusses his work on *The Illustrated Man* as a collection of individual stories which he brilliantly framed with a single outer narrative, so that it carries some of the qualities of a novel. Yet, each story in his book has the opportunity to sparkle on its own, and for its own merits. They are not merely chapters, winding through a linear storyline. Rather, they are able, as separate entities, to speak on a variety of topics while eventually building toward a centralized climax. With *Revolutions: Tales of the Genetic Surgeons* I wish to take this one step further. I plan to interweave the stories so that they form a historically unified universe. They are essentially about one overall subject – Genetics. Yet, although some characters remain the same throughout, each story is an “episode” in its own right. Each explores another facet of the results of human intervention in Genetics.

I considered entitling the book “...Cautionary Tales of the Genetic Surgeons.” However, upon reflection, this did not seem right. For with the dangers of such tampering also come the chances of amazing successes. By way of example, if the human race is ever to achieve world peace, perhaps the only hope is to alter some basic part, some aggressiveness, within the human body. Perhaps it would not be such a terrible trade off to shed our aggressive tendencies the way we shed scales and fur as we evolved this far. And so, a story about the politics needed to create this evolutionary leap may be a valuable portion of the book.

Why are they called genetic *surgeons*? The level of expertise and the invasive nature of their work led me to coin this title. Each time a gene is altered, it is as “surgical” in many ways, as a physician altering a body by removing a diseased organ. Invasive, explorative, and with profound consequences – such is the nature of Genetic Surgery. This holds true whether it is performed on a string of genes from a human, or from a geranium. All are part of the larger body of living organisms inhabiting the Earth, and a surgical alteration of one species may have unexpected consequences several links down the chain.

I hope to realize a set of fully-functional short stories which speak not only to the reader, but to each other as well. So, a woman who meets an Elvis clone walks the same streets as a doctor who turns terrorists into peace loving artists, or a man who makes the fatal mistake of drinking a beer with his TV dinner. From these “inter-discussions,” the reader will glean a larger portrait of this possible future. Perhaps some warnings will abide, but some promises may take flight, as well.

**TIMELINE:**

<b>MONTH</b>	<b>WRITING GOALS</b>	<b>RESEARCH GOALS</b>	<b>INTERVIEW/LECTURE GOALS</b>
<b>June</b>	- Five new pages per day. Five revised pages per day. - Five stories for the month.	Purchase and begin reading books on enclosed list. e.g.: - Science Fiction - Genetics textbks - Writing Craft - Space Travel Also: Check Internet Research	- Meet with Physics and Science Professors at UCI: Gregory Benford Mike Davis  - Weekly meetings with Professor Jayne Lewis, faculty mentor. - Workshop with Writing Group(s)
<b>July</b>	- Five new pages per day. Five revised pages per day. - Five stories for the month, plus completion of spine.	Continue to read: - Science Fiction - Genetics textbks - Writing Craft - Space Travel Check Internet Research	- Travel to Los Angeles or San Diego to hear Ray Bradbury lecture. - Weekly meetings with Professor Jayne Lewis, faculty mentor. - Workshop with Writing Group(s)
<b>August/Sept.</b>	- Five new pages per day. Five revised pages per day. - Seven stories for the month, plus overall polish.	Continue to reference: - Science Fiction - Genetics textbks - Writing Craft - Space Travel Check Internet Research	- Weekly meetings with Professor Jayne Lewis, faculty mentor. - Workshop with Writing Group(s)

**REFERENCES BY TOPIC:**

- General Science Fiction
  - *Masterpieces: The Best Science Fiction of the Century*
    - Orson Scott Card (Editor)
  - *The Science Fiction Hall of Fame, Volume I: The Greatest Science Fiction Stories of All Time, Chosen by the Members of the Science Fiction Writers of America*

- Robert Silverberg (Editor)
- Science Fiction w/Genetic Engineering
  - *Genetic Engineering: Opposing Viewpoints (Opposing Viewpoints)*
    - Louise I. Gerdes (Editor)
  - *Brave New World*
    - Aldous Huxley
  - *Parable of the Sower*
    - Octavia Butler
  - *Never Let Me Go*
    - Kazuo Ishiguro
  - *Frankenstein: The 1818 Text Contexts, Nineteenth-Century Responses, Modern Criticism (Norton Critical Editions)*
    - Mary Shelly
- Genetics Textbooks
  - *An Introduction to Genetic Engineering (Studies in Biology)*
    - Desmond S. T. Nicholl
  - *Principles of Gene Manipulation*
    - Sandy B. Primrose, et al
  - *Dinner at the New Gene Cafe: How Genetic Engineering Is Changing What We Eat, How We Live, and the Global Politics of Food*
    - Bill Lambrecht
  - *Remaking Eden: How Genetic Engineering and Cloning Will Transform the American Family*
    - Lee M. Silver
  - *Redesigning Humans: Our Inevitable Genetic Future*
    - Gregory Stock
  - *Genetics: A Guide to Basic Concepts and Problem Solving*
    - Richard P. Nickerson
- General Science Textbooks
  - *Environmental Science: A Global Concern*
    - William P. Cunningham, Mary Ann Cunningham, Barbara Woodworth Saigo
  - *Space Travel (Science Fiction Writing Series)*
    - Ben Bova, Anthony R. Lewis, Tony Lewis

- *The Science of Science Fiction Writing*
  - James Gunn
- Dictionaries, Thesauri, Other Linguistic Reference
  - *A Dictionary of Science (Oxford Paperback Reference)*
    - Market House Books (compiler)
  - *The American Heritage Science Dictionary*
    - Editors of the American Heritage Diction (Editor)
- Craft of Writing (Including the topic of interrelated short stories)
  - *Selected letters of James Joyce*
    - James Joyce
  - *The Art of Fiction : Notes on Craft for Young Writers*
    - John Gardner
  - *How to Write Science Fiction & Fantasy*
    - Orson Scott Card

#### **OTHER RESOURCES:**

I intend to correspond with various professors across scientific fields at UCI. One, Gregory Benford, is well-known for his work in Science Fiction. Another, Mike Davis, is also an accomplished writer in the genre. In addition, I would like to contact various UCI scientists about their research in the field of genetics or along the lines of space travel or the environment. For example, my piece entitled, "Achille's Godchild" will benefit from information detailing specific ecological problems and will thus allow me to create detailed traits for the "altered" humanoid characters. "Hailing Frequencies" will certainly benefit from information on space travel and its effects on the human body.

I have already attended one lecture on Genetics at UCI, and I hope to attend more as they are announced. I consider myself fortunate to reside in an area where much research in this area is currently being conducted, and lectures on various related topics (e.g.: Ethics of Genetic Research) are fairly abundant.

I will also work with at least one writing group, though my goal will be to find two (one at a professional level). There is also a student online writing group where I can submit work for review. This group is composed of fellow students from writing classes I have taken at UCI. If necessary, I may also take a writing course in the latter half of the summer to "workshop" stories.