Anthology of Interest: A Study of *Futurama* as a Literary and Scientific Cartoon

An Honors Thesis (HONR 499)

by

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Abstract

Cartoons are enjoyed almost exclusively for entertainment, and it therefore seems impossible that a cartoon could transcend this category and exhibit wit and intellectual material along with amusing characters and plot lines. Matt Groening’s series *Futurama*, which debuted in 1999, does just this. Through an extremely educated writing staff, *Futurama* blends science, math, literary references, and a quirky cast of characters into a cartoon that surpasses all others. This paper will investigate some of the scientific concepts found within the series as well as how the writers and creators were able to weave an intricate storyline for this show. Finally, it will investigate what the future may hold for the series which currently is off the air.
Acknowledgements

I would like to thank Dr. Brent Blackwell for assisting me throughout this extensive process. Without him and his enthusiasm, I would not have been able to legitimately write a thesis over my favorite television series. I greatly appreciate his time, patience, and courage in reading through this monster and giving me suggestions in order to make it the best version possible. His help was a large portion of the guidance I have received over the course of my college career at Ball State.

Furthermore, I would like to thank Mike for telling me to check out *Futurama* in the first place. Had he not, I literally would not have this thesis. Also, a second round of thanks to him for all the hours he logged with me at the library during the construction of this thesis. Our many weekends sequestered away in the library, plus all the laughs we had there, got me through this arduous process and kept me (mostly) sane.

A final thanks to my parents, Scott and Kelly. They gave me life, and that’s sort of a big deal.
# Table of Contents

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
</tr>
<tr>
<td>Acknowledgements</td>
</tr>
<tr>
<td>Table of Contents</td>
</tr>
<tr>
<td>Introduction</td>
</tr>
<tr>
<td>Preface</td>
</tr>
<tr>
<td>Act I, Sc. I: Planet Express Company Roll Call</td>
</tr>
<tr>
<td>Act I, Sc. II: <em>Futurama</em>: The Minor Characters</td>
</tr>
<tr>
<td>Act II, Sc. I: Hail Science</td>
</tr>
<tr>
<td>1. The Moon Moon?</td>
</tr>
<tr>
<td>2. Leela, I Had Worms</td>
</tr>
<tr>
<td>3. Global Warming or: None Like it Hot!</td>
</tr>
<tr>
<td>1. Science Excursion I: Theoretical Physics starring <em>Bender’s Big Score</em></td>
</tr>
<tr>
<td>2. Science Excursion II: Evo-Biology starring <em>A Clockwork Origin</em></td>
</tr>
<tr>
<td>iv. What Happens in Cygnus X-1 Stays in Cygnus X-1</td>
</tr>
<tr>
<td>v. Mōbius Drag Strip, Man</td>
</tr>
<tr>
<td>vi. Pseudoscience</td>
</tr>
<tr>
<td>Act II, Sc. II: Memoray</td>
</tr>
<tr>
<td>1. Welcome to the World of Tomorrow!</td>
</tr>
<tr>
<td>2. Vergon 6</td>
</tr>
<tr>
<td>3. The Day the Earth Stood Stupid</td>
</tr>
<tr>
<td>4. Roswell That Ends Well</td>
</tr>
<tr>
<td>5. Jurassic Bark</td>
</tr>
<tr>
<td>6. The Why of Fry</td>
</tr>
<tr>
<td>7. The Last Connection(s)</td>
</tr>
<tr>
<td>Act II, Sc. III: But That’s Not All</td>
</tr>
<tr>
<td>Act III, Sc. I: The Future of <em>Futurama</em></td>
</tr>
<tr>
<td>Act III, Sc. II: Tonight at 11: DOOOOOOOOOOM!</td>
</tr>
<tr>
<td>Act III, Sc. III: Meanwhile</td>
</tr>
<tr>
<td>Works Cited</td>
</tr>
</tbody>
</table>
Introduction

This paper explores the different facets of Futurama’s scientific and literary qualities through a series of Acts and Scenes, as well as two Science Excursions. In order to explore the many examples of both scientific and literary genius within the series, it requires a unique set up. Therefore, it is divided up like the acts in a play, or like the three acts of a television episode.

In Act I, the characters of Futurama are introduced, after a short preface to set the scene for the reader. Both minor and major characters are described so that the reader can have an understanding of who is going to be involved throughout the rest of the paper. By knowing the most important facts and characteristics of the persons within the Futurama universe, the reader can feel familiar with the characters, even if s/he has not watched the show before. Being as grounded as possible within the world of New New York, and beyond, is the key to navigating this paper, and therefore consumes the first Act.

Once the characters are introduced, the paper continues on to Act II. This Act is divided into three different Scenes. In the first Scene, “Hail Science,” the scientific aspects of Futurama are explored. It discusses episodes that prominently feature science and focuses on that scientific topic throughout the whole episode. From going to the Moon to evolution, a variety of science is written into the series as a whole. Also within “Hail Science” are two Science Excursions. The first focuses on Theoretical Physics via the direct-to-DVD film Bender’s Big Score, and the second Excursion discusses Evolutionary biology with a focus on the episode “A Clockwork Origin” from Season 9. Throughout this first Scene and two Excursions, the reader should have a
better understanding of just how scientifically accurate the writers of *Futurama* were able to make the series.

The second Scene of Act II is entitled “Memoray.” This is an allusion to a device in the show that the Professor (who will be formally introduced soon) makes. It is shaped like a gun and allows people to remember events in the past by pointing the Memoray at their heads and pulling the trigger. The purpose of this scene is to follow the interconnectivity of Philip J. Fry’s journey to and within the future in the series. While many cartoons are episodic and tend to jump from event to event with little to no connection in between, *Futurama* does quite the opposite. The show utilizes linear storytelling: as the story progresses, the previous episodes still hold meaning and can have an impact on future episodes. For instance, a moment in the pilot episode affects later episodes (which will be discussed later). The show also revolves back to the pilot to advance episodes that come later in the series, one such example being “The Why of Fry” from Season 5. The show remembers itself and uses this memory to make an arcing storyline that weaves itself through from the beginning of the series to the end. It is a far more complex story than what is expected and shows the writers excel at not only writing scientifically accurate episodes, but are able to create a literary work, too.

The final scene of Act II discusses a few other moments of interconnectivity within *Futurama*. Fry is not the only character with a story that weaves in and out of episodes. The series does this quite a few times, as with Leela and the society of mutants in New New York, which further creates a complex world for the viewer. The scene also discusses two different alien languages
that the writers invented in order to create an interactive environment between the viewer and the show.

Finally, the last Act is split into three Scenes. As a collective, Act III explores the reasons for Futurama’s cancellation, its journey on the air and being tossed from network to network, and what the future holds for the show. It includes a discussion of why Futurama may be forever doomed to cyclic cancellation if the show is to be picked up once again on a new network. Based on accumulated research, the forecast for the series’ future is dim, but only time will tell.

An interesting note to make before continuing on is that in September of 2014, while this paper was being written and researched, a book of essays entitled Futurama and Philosophy: Pizza, Paradoxes, and...Good News! by Courtland D. Lewis was released by CreateSpace Independent Publishing Platform. Lewis wrote an essay in the book and gathered many others by different authors on a variety of subjects, such as religion, freedom of speech, and addiction. These essays then spotlight one or a couple of Futurama episodes that focus on the authors’ chosen topic. The timing was quite coincidental and also encouraging. While Futurama might currently be off the air, it looks like people are interested in discussing it and its relevant discussions of social issues. Just like Lewis’ book of essays, this paper will contribute to the budding conversation on Futurama and its relevancy as a cartoon with scientific and literary themes.

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Anthology of Interest

Preface

December 31st, 1999

*Space. It seems to go on and on forever... but then you get to the end and a gorilla starts throwing barrels at you. And that's how you play the game.*

---Philip J. Fry

For the protagonist of *Futurama*, Philip J. Fry, life could not get much worse. As a twenty-five year old pizza delivery boy in New York City, he makes his way, on New Year’s Eve of 1999, to a cryogenics lab to drop off a pizza. After being dumped by his girlfriend, Michelle, while bicycling to the lab, the whole delivery turns out to be a prank order.² Weary and irritated, Fry sets the pizza down on a desk in the cryogenics lab, sits at the desk, and pops open a “Löbrau” brand beer. “Here’s to another lousy millennium,” he says to himself as he leans back in the chair. The world begins to count down the end of 1999 and as they reach the last second, Fry sarcastically blows a noise maker. Suddenly, he loses his balance and tips over backwards into an open cryogenic tube which slams shut, locks, and the time dial sets for 1000 years later. After a montage of sunrises and sets, as well as civilization outside the lab being destroyed more than a few times, Fry is awakened from suspended animation on December 31st, 2999. “My parents. My coworkers. My girlfriend. I’ll never see any of them again...Ya-hoo!” Fry laments and then celebrates as he presses himself against the window and gazes out into what is now called New New York, beer still in his hand. All of this happens in the first three minutes of the pilot episode of *Futurama*, wasting no time in getting Fry to a world of infinitely new possibilities.

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² Preface quotes and summary are all from “Space Pilot 3000,” the first episode of *Futurama*.
Act I, Sc. I

Planet Express Company Roll Call

On Sunday March 28th, 1999, Futurama aired on the Fox network at 8:30 ET and stayed in this time slot until April 6th, where it then moved to a permanent time slot of 8:30 on Tuesday nights. This was part of Fox’s plan to introduce its “new all-animation Tuesday night.” Futurama was the first new project that creator Matt Groening had done since the premiere of his first and most famous show, The Simpsons, back in 1989. While both shows feature the classic Groening art style (characters from both The Simpsons and Futurama have bulging eyes and overbites), Futurama was set apart from The Simpsons because of its bolder color schemes and overall better looking 2D animation.

The animation was not the only thing to have received an upgrade in comparison to The Simpsons: the writing staff had as well. Futurama is a powerhouse in the writing room, staking claims to multiple writers who have PhDs. For example, Executive Producer and Co-developer, David X. Cohen has a Bachelor’s degree in Physics and a Masters in Computer Science. Another Executive Producer, Ken Keeler, has a PhD in Applied Mathematics. Writer Jeff Westbrook has a PhD in Computer Science and another writer, Bill Odenkirk, has a PhD in Chemistry. When it comes to brains, the Futurama crew definitely has quite a few good ones between them.

And now, without further ado, the famous cast of Futurama:

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Philip J. Fry: He has been previously introduced in the preface of this paper, but Fry is a twenty-five year old pizza delivery boy with vibrant orange hair and clothes stylized after those of James Dean. For all intents and purposes, our disillusioned protagonist is most definitely an anti-hero, though he slowly transforms into more of a “modern day” hero as the series progresses. Fry just so happens to be the most important person in the universe, which is revealed multiple times in the series. As a character, he is a dopey underdog who always gets a chance to redeem himself for his own shortcomings. When he comes to the year 3000, he is disappointed that he is assigned a “delivery boy” career chip, yet when offered a job to be a space delivery boy for his distant nephew, Professor Hubert J. Farnsworth, he cheers triumphantly. Thus, Fry happily accepts a position amongst the Planet Express crew to help with delivering packages throughout the universe.

Turanga Leela: This beautiful, purple-haired, one-eyed spunky “alien” is one of the first people who Fry meets when he wakes up from his cryogenic slumber. She initially works at the lab and assigns people their career chips. Leela is a woman who does things for herself and is a force to be reckoned with, yet she lets down her wall with Fry, telling him that she “knows what it’s like to be alone,” just as he is in the future. In the first episode, she decides to desert her job and do what she wants for once—which is

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5 “Alien” being a misleading adjective in both the show and this paper. In order to increase suspense or just because they were uncertain of Leela’s true origins, the writers stated that she was an alien until the fourth season where it was revealed that both she and her parents are mutants. It was a shock and quite a twist in the series when this occurred.

6 Season 1, Episode 1 “Space Pilot 3000” (All episodes from hereafter to be coded with the season number first, followed by the episode: 1.1)
to also join the Planet Express crew with Fry. Her “can do” attitude is rewarded when Professor Farnsworth decides to name her captain of the *Planet Express* ship and his delivery crew. Throughout the series, Leela’s character and origin story become more complex, yet she remains the kickass broad with a passion for animals, and a special love for her pet, Nibbler.

**(Lord) Nibbler:** A seemingly innocent and nonsensical creature, Nibbler, with three eyes, a nose with one nostril, overhanging fangs, and a walk like a gorilla, was saved on Vergon 6 by Leela.7 A planet doomed to implode, the Planet Express crew was sent to rescue some of the animals on Vergon 6 before it self-destructed. Nibbler takes on the role of Leela’s “sweet schnookums,” but he is an essential character to the show. It is not until Season 3, Episode 7 (“The Day the Earth Stood Stupid”) that it is revealed that Nibbler is so much more than he appears to be. He masquerades as a cute pet, but is in fact an intelligent being whose fate is more closely tied with Fry’s than thought possible.

**Bender Bending Rodriguez:** While on the run from Leela, who is trying to give him his career chip, Fry stands in line for what he believes to be a telephone booth. Instead, it is a suicide booth and a grey, anti-social robot gets in line behind him. This is Fry’s first encounter with a robot, as well as the audience’s. “Bite my shiny metal ass” are the

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7 1.4 “Love’s Labours Lost in Space.”
first words Bender says, and this catch phrase remains all throughout the series. As a running joke, plays on Bender’s favorite phrase appear many times in a variety of ways as well.\(^8\) Bender has an addictive personality: he excessively smokes cigars, relies on booze in order to keep himself operational (all robots do), loves pornography, enjoys stealing, and is quite overemotional for a robot. Bender embodies quite a few horrible qualities, and yet he is insanely loveable. With a passion to be a chef, a folk singer, and to “kill all humans,” Bender’s outrageous behavior and ego somehow make him more endearing than he ever should be. Bender tells it like it is and yet despite his adult indulgences, he manages to have an air of boyish qualities, much like Fry, which makes the audience feel that Bender is as great as he believes and promotes himself to be.

**Professor Hubert J. Farnsworth:** With glasses so thick his eyes cannot be seen through them, a white lab coat, and fluffy slippers, Professor Farnsworth, most commonly called “the Professor,” is Fry’s great (x30) nephew and owner of the Planet Express delivery company. He is a mad scientist who constantly invents all sorts of wacky inventions that tend to be less than useful (such as the Finglonger which is nothing but a glove with an almost obscenely long index finger). Part genius, part senile old man, the Professor proclaims an almost always ironic “Good news, everyone!” before describing one suicide delivery mission the crew will be sent to accomplish. The

\(^8\) For instance, in the direct-to-DVD film *Into the Wild Green Yonder,* Fry wears an aluminum hat to prevent the Dark Ones from reading his thoughts. When Bender says something Fry finds insulting, Fry retorts with, “Bite my shiny metal hat.”
Professor has quite a complex backstory and amorous relationship with Mom, an evil capitalist who dons the character of a warm, maternal figure in order to gain money and scam the universe. The Professor often makes fun of and degrades his Uncle Fry for being a dope, but at least he is not technically the oldest living member of his family anymore, though he still is quite old: close to 150 years old when the show airs.

**Dr. John Zoidberg:** While he might be an efficient doctor for aliens, Zoidberg does not have a clue when it comes to human anatomy. Somehow, this does not prevent the Professor from hiring and keeping him as the staff doctor for Planet Express.\(^9\) Dr. Zoidberg is a Decapodian from the planet Decapod 10; he appears to be part lobster with claws for hands, but the tentacles on his face are a mystery. Zoidberg is disliked by the entirety of the Planet Express crew, and often the butt end of their jokes. His dream was to be a “song and dance man,” but he was instead pushed into becoming a doctor by his mother.\(^10\) He is ironically destitute and extremely poor, living in a dumpster outside of the Planet Express building. Constantly down on his luck, he is quite pitiful (or pathetic as the Planet Express crew would see it), but with outbursts that are often overreactions, Zoidberg is a character who uses pity and exaggeration to create humor.

**Amy Wong:** A grad student of the Professor’s (which is a fact that nearly gets lost within the show), she is the

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\(^9\) An answer to this mystery is revealed in episode “Tip of the Zoidberg” in Season 8.
\(^10\) 3.8 “That’s Lobstertainment!”
daughter of Leo and Inez Wong, rich land owners who raise buggalo on Mars and who also own plenty of casinos on the Red Planet. She is a klutz and the slapstick character on *Futurama*. Despite being in the majority of the episodes, Amy is still more of a minor character, though there are a few episodes that spotlight her.

**Hermes Conrad**: The official Grade 36 bureaucrat for the Planet Express business, this Jamaican spends most of his time dealing with the tedious nature of bureaucracy. He often attempts to get the Planet Express crew to focus on business as opposed to fun and dangerous adventures. Hermes is most known for his ability to limbo and to create catchphrases that rhyme a thing with a place (i.e. “Sweet llamas of the Bahamas!”). Along with his infinite phrases, he is sometimes concerned about his Manwich sandwiches and with a thin and fit rival, Barbados Slim, stealing his wife, LaBarbara, from him.

**Act I, Sc. II**

*Futurama*: The Minor Characters

The universe(s) of *Futurama* that Groening, Cohen, and others conceived is massive. While it may not have quite as an extensive cast as *The Simpsons*, one would still be hard pressed to remember all of the characters that have ever been a part of this series. There are quite a few “major” minor characters that deserve to be mentioned, though. They are as follows:

**Zapp Brannigan**: Captain of the ship *Nimbus*, Zapp is revered as an amazing military man, famous for his exploits throughout the universe. Yet, those who know Zapp
personally would disagree with such a description of him. He is obsessed with all things sensual and sexy, often using just those adjectives in front of words that have no right being labeled as “sensual.” Not only that, he is an egotistical man, driven by the desire to get Leela to love him or at least to “physically love” him. If one positive thing can be said about this man, who drags out every word he says by adding an extra syllable, it is that he does not give up…at least when it comes to trying to get Leela to give into him. His velour uniform’s skirt is as short as his ego is big. Despite his position of power, he often makes a fool of himself because his ego gets in his way.

**Kif Kroker:** A green, skinny alien, Kif is more or less Zapp’s servant (“slave” would perhaps be more suitable) as opposed to being his First Officer. With a never ending supply of sighs, Kif is reluctant to do anything Zapp says, for he knows that it is never going to end well. Unfortunately, he is too passive to do anything other than sigh and execute the order given to him. Not everything in Kif’s life is bad, though, for he falls in love with Amy Wong who, in spite of his shyness and their differences in species, falls in love with him, too.

**Robot Devil:** As far as minor characters go, Robot Devil is one of the best. It is made known that Robot Hell is actually in New Jersey, in an old, rundown amusement park ride called “The Inferno.” Robot Devil has a love for song

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11 “Hell is Other Robots.” The name for this episode is a reference to a famous line from Jean-Paul Sarte’s *No Exit.* The play follows three deceased people locked together in a room for all eternity, just as Bender was to be “locked” in Robot Hell for all eternity. The title of the episode appears on a pamphlet that Robot Devil hands Bender on their way down into Hell.
and dance, doing both of these activities in multiple episodes that he appears in, such as “Hell is Other Robots” and “The Devil’s Hands are Idle Playthings.” He makes deals with many of the characters, such as Fry, Bender, Leela, and others. For being the Lord of the Damned, he is quite approachable, down to earth, and often gets into trouble because he falls to the same whims of “fate” that humans do. It is this tendency to act more human than robot and/or “Satan” that makes Robot Devil such an interesting character. The juxtaposition of irrational thought and behavior with the fact that he is the robot leader of the underworld creates an unusual character that one would be hard pressed to compare to other TV characters.

**Calculon:** The lead actor of the soap opera “All My Circuits,” Calculon is a golden robot with an ego big enough to surpass that of Zapp and to rival Bender’s. Calculon appears time and time again throughout the series and tends to stay a static character. He does his acting and tries to ward off Bender who tends to stalk Calculon any chance he can get. While there is not much else to say about Calculon other than he is a self-absorbed actor, he does tend to play a key role in the episodes he appears.

**Richard Nixon’s Head:** Yes, that is absolutely correct. Richard Nixon does in fact appear in *Futurama*, elected as Earth President in Season 2, Episode 7 “A Head in the Polls.” Established in the pilot episode, heads can be kept alive in jars of fluid—there is even an entire Head Museum that contains the heads of Leonard Nimoy, the US Presidents, and many more. In fact, Nixon attacks Fry in
the pilot episode, biting his jacket and refusing to let go. Still as crooked as when he had a body, Nixon rules his “fellow Earthicans” from the White House with help from the Headless Clone of Spiro Agnew. Constantly promoting Charleston Chews and howling “Arrroooooo,” Nixon appears in more episodes than not, jar perspiring madly as well.

Mom: Although she has already been mentioned in Professor Farnsworth’s character introduction, she deserves to have her own section here. Mom is a bony, fragile-figured woman who almost is never without a cigarette and is an abusive mother to her three sons, Walt, Larry, and Ignor. A wicked woman, Mom seems to only truly care about capitalism and making money, often manipulating the citizens of New New York to buy her products, such as the eyePhone. She is also the owner of Mom’s Friendly Robot Company. Mom looks out solely for herself and the best interest of her company, though the world only sees her when she dons her big bosomed suit to give her the appearance of being softer and more maternal. A long and complicated love affair existed (and at times exists in the present) between her and the Professor, which is brought up in multiple episodes as a key to the plot.

The Harlem Globetrotters: These basketball players are not only athletic, but highly intelligent. They are physicists and key players (pun definitely intended) in many episodes where it is necessary to utilize math in order to ensure that the universe is saved from danger. “Time Keeps on

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12 6.3 “Attack of the Killer App”
Slippin’,” the Futurama film Bender’s Big Score, and “The Prisoner of Benda” are just a few examples where the “razzle-dazzle Globetrotter calculus” is essential to the resolution of the plot.

As previously stated, there are far too many characters in the entirety of Futurama to discuss each of them. But with a brief introduction to the most essential ones, the true focus of this paper can now commence.

Act II, Sc. I

Hail Science

It is no secret that Futurama is a science fiction cartoon. Even if one has not seen the show, it would be an easy guess for the evidence of its genre also lies in the title. One aspect of Futurama’s uniqueness is that it does not just utilize science fiction, but quite frequently “science non-fiction” as well.

What is meant by this is that many episodes of Futurama focus on or feature real science. While there are a plethora of episodes that could be discussed for this section, the focus will be on the most prominent and noteworthy ones. These episodes include:

“The Series Has Landed” (1.2)
“Parasites Lost” (3.4)
“Crimes of the Hot” (5.1)
Bender’s Big Score
“A Clockwork Origin” (7.9)
“The Prisoner of Benda” (7.10)
“2-D Blacktop” (10.1)

Scientific accuracies, purposeful inaccuracies, and jokes about pseudoscience can all be found within these episodes, and many more, of Futurama.
The Moon Moon?

Even though the tonality of Futurama was well-established within the pilot episode, Groening and company created a fairly normal episode for the nation’s second taste of the show with “The Series Has Landed.” ¹³ This episode is not only used to introduce more of the 30th century to the audience, who share Fry’s virginity to the whims of the future, but to also introduce a few more minor characters like Hermes Conrad, Amy Wong, and Dr. Zoidberg. After the Professor names Leela the captain of the new Planet Express crew, she along with Fry, Bender, and Amy are sent on their first delivery. They are to deliver a crate of stuffed animals to an amusement park on the moon named Luna Park. Since a young age, going to the moon has been his dream, so Fry is ecstatic about the trip: “Wow, I’m going to be a famous hero just like Neil Armstrong and those other brave guys no one ever heard of.” Yet, Leela treats it as no big deal—and why should she? In the 30th century, going to the moon is about the least exciting place to venture.

When they arrive, Fry is anxious to explore the moon. He rushes out of the ship to step foot on the lunar surface only to bump into a long line of tourists awaiting entrance to Luna Park. As they spend more and more time in the amusement park (and after meeting Luna Park’s mascot, an allusion to the 1902 George Méliès “A Trip to the Moon”), Fry becomes disillusioned with the moon of the 30th century. ¹⁴ It is not at all what he pictured when he was young or back in the 20th century. Essentially, it is another tourist trap, made for capitalistic gains, not for the spirit of space adventure. Not all hope is lost, though, for there is an educational ride everyone dislikes because it ventures out onto the “boring” surface of the moon. Dragging Leela along, Fry is once

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¹³ “Normal” when compared to later episodes that are very quirky, wild, and a bit out there; this episode is quite tame for Futurama.

¹⁴ Méliès’ silent film follows astronomers as they make a trip to the moon in a capsule that is powered by cannon. When they land, their capsule sets down in the eye of the man on the moon. In this episode of Futurama, Bender tosses his empty beer bottle at the Luna Park mascot and it lands in the mascot’s eye to allude to the silent film.
more aggravated when this ride turns out to be a “fungineer” depiction of the moon landing since “no one knows where, when, or how man first landed on the moon.”

In desperation, Fry gets the car, which looks like a lunar rover, off its track to explore the moon’s surface away from the amusement park. Of course, this is when everything starts to go wrong, but also when subtle scientific accuracies begin to come out. After running low on their oxygen supply, Leela and Fry seek refuge on a yokel’s farm, exchanging labor for oxygen. While they are allowed to leave at sunup, that is a long two weeks away since nighttime lasts fourteen days on the moon. The writers of Futurama not only complicated the plot with this, but they were able to work in a scientific fact. Thus begins the tradition of meshing science with science fiction.

Interestingly, a science teacher wrote into the Futurama staff, complaining that the show was misinforming the American youth about how night falls on the moon. The animation portrayed Fry and Leela running away from a shadow that “chased” after them. Ken Keeler, who wrote this episode and, as previously mentioned, has a PhD, retorted that in fact, the animation was fairly accurate, and they took quite a long time researching how exactly to create the scene. They also put effort into calculating the latitude and longitude that Leela and Fry would have to be at for the shadow to be animated with a realistic speed. Just like on Earth, there are places on the Moon where nightfall would happen faster because of the spherical nature of both objects. While the viewer does not necessarily need to know what latitude and longitude Fry and Leela are at on the moon, the realism that this accuracy portrays is another indicator of how much effort the creators put into the show, even on just one detail.

15 The “fungineers” imagined that whalers, armed with harpoons, were sent to hunt whales upon the moon’s surface. Alas, there being no whales, they instead “tell tall tales and sing a whaling tune.”
16 According to the DVD commentary on this episode.
Additionally, the writers and staff took their time calculating just where/how the Earth would be and look as Leela and Fry gaze out from the Apollo 11 Eagle lander.\textsuperscript{17} This scene is actually inaccurate, for the Earth would be directly over the Eagle and therefore, would not be reflected in Fry’s space helmet as it is in the episode. The importance of scientific accuracy is set to the side, though, for it was more valuable for Leela to gain a new perspective and see the world how Fry does.

Just like the pilot episode, “The Series Has Landed” needed to further ground the viewer in the world of the 30\textsuperscript{th} century through the contrast of Leela’s view of the world versus Fry’s. It also had to introduce more minor characters of the Planet Express Company subtly while further solidifying the show’s style through a combination of humor, satire, serious moments, and scientific fact. \textit{Futurama} is beginning to prove itself to the world.

**Leela, I Had Worms**

In “Parasites Lost,” a third season episode of \textit{Futurama}, Fry finds himself transformed into an eloquent, mature, “boyfriend material” guy thanks to a colony of worms that live in his colon. After eating an egg salad sandwich from a gas station (complete with a black slice of what turns out to be a tomato), the worms infiltrate his body (unbeknownst to Fry) and begin to do work on him. One day, not long after he ate the sandwich, it is up to Fry and Bender to fix a boiler on the verge of explosion because Scruffy the Janitor refuses.\textsuperscript{18} When Bender does an amateur job of it,

\textsuperscript{17} The Eagle lander is in fact on the moon in the 30\textsuperscript{th} century. A plaque within the Eagle lander that states “Lander returned to this site by the Historical Sticklers Society” was placed within the lander to quiet any complaints about inaccuracy.

\textsuperscript{18} 3.4 “Parasites Lost” Scruffy is more interested in reading an erotic magazine, “Zero-G Juggs,” than doing his job.
even though he declares it “fixed forever,” the boiler proceeds to explode and impales Fry with a lead pipe.

Deemed a hypochondriac by Dr. Zoidberg, Fry and the crew are astounded when the pipe saws itself in half and falls out in the examination room, leaving a gaping hole in Fry’s torso. As soon as Bender leans forward to look through the hole, silver filaments block his view as the hole is repaired. Dr. Zoidberg finally does his duties as a doctor: he listens to Fry’s heart, and then examines his gastrointestinal tract which involves a camera being inserted... not through the mouth.

As the Planet Express crew watches the camera’s journey through Fry’s bowels, it stumbles upon the colony of worms. Of course, the only way to get rid of the “disgusting maggots” is to shrink down, board a miniature Planet Express ship, and enter Fry’s body. The goal is to get to Fry’s pelvic splanchnic ganglion and trigger a spasm of the bowels—clearing out the worms. Leela is to provide a distraction for Fry so that he is not aware of the plot. If he hears it and is conscious of the plan, then the worms may be aware, too, and try to resist being cast out of Fry’s bowels.

This is when the show truly takes off and displays its scientific side as well as advances an emotional plot between Fry and Leela. As the Planet Express ship and crew enter through the ear drum (which is quickly repaired by one of the worms), they go into the nose where the ship is bombarded by pollen from Fry smelling flowers he is going to buy for Leela. Uncharacteristically, Dr. Zoidberg points out that they could escape through a nasal capillary into the sinus; it seems as if he finally knows a bit about human anatomy. After Hermes
questions this, it is revealed that Dr. Zoidberg learned this fact from a decongestant commercial which is both hilarious and reestablishes that Zoidberg is still ignorant.  

When the crew find themselves in Fry’s heart, they seem to be safe for a moment—until Fry helps Leela cross a puddle and his heart begins to beat faster, tossing the ship around in his veins. The combination of the outside influences and the inner shots of what happens to Fry’s body from these external factors also create for an interesting, and educational, story. So far, everything has been painstakingly portrayed as accurately as possible, like the red blood cells they encounter. For a cartoon, it gives a fairly comprehensive and correctly depicted image of the inner body.

Of course, there has to be a complication in the plot to rid Fry of the worms. Leela, enamored with the new and improved Fry, is that complication. She creates a little droid of herself and destroys the crew before they can get Fry to expel the worms. Leela wants the worms to stay in Fry since she “loves what [he’s] become.” Suddenly, Fry is considerate, charming, and has deserted those boyish tendencies that were an ultimate turn off for her. When Fry plays a holophonor for Leela in her apartment and sufficiently seduces her, she grabs for his hand so as to take him to her bedroom. This is where, after they pause for a moment in their making out, Leela tells Fry how she loves what he has become. These words open Fry’s eyes to the possibility that, while he finally has Leela’s attention and desire, she might not really love him.

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19 Not much long after their escape, the Planet Express crew lands in Fry’s heart which Zoidberg states is the place that digests food.

20 The holophonor is an instrument that looks sort of like a clarinet with a bulbous bottom. It not only plays ethereal sounding music, but produces moving images with it. Fry creates a whole mini-movie of his feelings for Leela and even plays/depicts them dancing on the rings of Saturn. This holophonor comes back in the Season 5 finale, entitled “The Devil’s Hands are Idle Playthings.”
Therefore, Fry sets off on a mission to confront the worms in his bowel leading to a sword fight with the king of the worms. They end up in the brain where Fry begins to slash synapses and his hand-eye coordination lobe, destroying himself to make a point to the worms that they must leave. When he is backed into the corner, he recovers, saying it was his plan all along to get to the mendula oblongata: control center of the heart and lungs.

Sword raised, Fry threatens to kill himself. Fortunately, the worms give in, claiming they will be back when Fry eats a fast food burger one day. “Ever wonder what makes ‘special sauce’ so special?” the king says, pointing to himself.

Unfortunately for Fry, he loses Leela’s interest as he tries to play the holophonor once more. He has returned to the untalented and immature version of himself. So, while he may not have gotten his girl, “Parasites Lost” is still important for other reasons. It not only advanced the romantic story of Fry and Leela, but also introduced the holophonor which would soon be revisited later down the road.\textsuperscript{21} This episode also was successful in taking something quite scientific, a trip through the human body, and still making it interesting, funny, and emotional all at the same time. And that is what \textit{Futurama} excels in: the trifecta of science, comedy, and excellent (and often emotional) storytelling.

\textbf{Global Warming or: None Like it Hot!}

When faced with an extremely hot day in New New York, the Planet Express crew seeks relief from the heat by watching a movie—which coincidentally just so happens to be about global

\textsuperscript{21} The importance of foreshadowing in \textit{Futurama} will be discussed in a later section of this paper.
warming. In the film, a man discusses global warming with a little girl, telling her that each day “Mr. Sunbeam” comes down to visit Earth. Unfortunately, though, Mr. Sunbeam gets beat up and murdered by a gang of greenhouse gases as he attempts to leave at the end of the day. “Pretty soon, Earth is chockfull of sunbeams, their rotting corpses heating our atmosphere.” Yet a “solution” prevailed: giant ice cubes were dropped into the ocean, beginning in 2063, to cool the Earth. As the years went by, bigger and bigger ice blocks were needed. This method solved the problem “once and for all!” the narrator screams as the little girl questions this “solution.” Just as the movie ends, Nixon video conferences the Planet Express crew to get them to get a block of ice from Halley’s Comet and “save the Earth, et cetera, et cetera.”

Comically, the Planet Express ship approaches and lands on Halley’s Comet with a giant Styrofoam cup tethered down on top of the ship. Bender maneuvers the ice drill out onto the surface of the comet which then opens up and reveals it to be a giant ice dispenser. He gets the cup into place underneath the dispenser which activates the drill. But nothing happens! Halley’s Comet is out of ice.

Because the normal fix for the rising temperatures is “out of order,” the temperature crisis only gets worse on Earth. A new solution is needed to stop global warming and preserve the planet. In Kyoto, a worldwide science conference is led by none other than Al Gore’s head to try and figure out a new solution to this problem. He offers a bag of moon sapphires to the first scientist who can save Earth and stop global warming once and for all.

22 5.1 “Crimes of the Hot;” Halley’s Comet is “the only sufficient source of ice cubes that don’t have bugs in them.”
Up to propose the first idea is Ogden Wernstrom whom the Professor hates very much.
Wernstrom has launched an orbiting mirror into space to reflect forty percent of the sun’s light. 
With less light coming in, it should effectively cool the earth down. As he opens the dome of the 
convention center so that the scientists can observe his clever solution, the mirror is hit by the 
tiniest of asteroids which changes the orientation of the mirror. Instead of reflecting the rays, it is 
now concentrating the sun’s rays down onto the earth, turning it into a fiery hot “laser” beam. 
Not only is global warming still a problem, now there is Wernstrom’s rogue mirror to deal with 
as well.

After demanding the floor, although it is his turn to speak, Professor Farnsworth takes the stage 
and reveals that he knows that the source of the greenhouse gases are the robots he built for 
Mom’s Friendly Robot Company seventy-five years prior. He sacrificed fuel efficiency in order 
to build a bigger, beefier robot that had no chance of passing emission standards. In his 
flashback, we see Mom slap him as she tells him to call it a “Sport Utility Robot.” Thus, the 
future of earth is sealed with this demand. These robot models would soon begin to plug up the 
atmosphere with greenhouse gases, thus leading to the situation they are facing in the present. 
The only solution now is to “destroy all robots” which would free Earth from their reign of 
gaseous terror.

Once the conference is over, Nixon sends all the robots an invitation to the Galapagos Islands for 
a “party;” instead this is a way to gather all the robots to one location in order to kill them 
simultaneously. The only robot to figure this out is Bender. All the other robots are having fun

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23 Bender and other robots are often proclaiming “death to all humans” or “kill all humans”—an ironic twist that robots are now the recipients of this all-too-familiar death threat.
on their way to the Galapagos but Bender, king of partying, is downtrodden and depressed.

Nixon and Wernstrom plan to use the failed mirror to decimate the Galapagos and all the robots on it via the laser beam of concentrated sun rays.

In a moment of insight, the Professor realizes that if all the robots release their exhaust in unison, it can propel the earth away from the sun enough to spare the robots and cool the planet. They do so, creating a slightly bigger orbit for Earth around the sun. This makes the year on Earth a week longer, which Nixon declares to be “Robot Party Week.”

While the entire episode is clearly full of unrealistic solutions to global warming, it is meant to operate as a discussion about our current day global warming plight. The social commentary throughout this episode lingers from start to finish. From the Kyoto convention and the use of Al Gore to failed solutions and by using the robots as stand-ins for cars, *Futurama* shows us that the environment in the 21st century cannot “take another one for the team,” as Professor Farnsworth would put it. It is meant to exaggerate the potential solutions to the problem, as seen with the ice cubes being dumped into the ocean, but it is also supposed to get the audience thinking about the consequences of not being more environmentally cautious. That is what is so great about this episode: it uses humor and scientific (in)accuracies to discuss important issues that we deal with right now. There is a lesson to be learned from this episode. Of course, we cannot just propel ourselves away from the sun and conveniently keep using our oversized automobiles while successfully cooling our planet. Therefore, real solutions must be thought up and an effort to be more conscious of our actions while on this planet is also necessary. *Futurama* takes on more social issues in other episodes, but it is the combination of humor and satire that allow for the
message to come across loud and clear. This episode may not be the most scientifically accurate as far as solutions to the problem goes, but it definitely deals with a scientifically relevant issue today.

**Science Excursion One: Theoretical Physics**

*Bender’s Big Score*

In 2003, after seventy-two episodes, *Futurama* was not renewed by Fox for a fifth season. Viewership was down, and Fox was concerned that they had already let the show go on for too long. But four years later, a direct-to-DVD movie, by the name of *Bender’s Big Score*, was released to the public. Originally, Groening and Cohen had approached Fox asking to make one movie, but then Fox said they could do two. Why stop there? They then made a deal with Fox for four movies based on the series. *Futurama* was back.

*Bender’s Big Score* is the masterpiece of the entire series. This hour and a half long movie not only contains all the whims and characteristics that make *Futurama* what it is, but it is able to accomplish this feat four years after production ceased. The movie is so well done as to seem like no time has passed since the last episode aired on television and this only, once again, proves how superior the writing staff is in maintaining characters and storylines.

This movie should be acclaimed for more than just this seamlessness, though. It has an intensely complicated plot line and is the first time since “Roswell That Ends Well” that the writing staff

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24 This was largely Fox’s fault. They switched the placement of *Futurama* quite often, failed to advertise the show, and would often let a sportscast or other programming play in *Futurama’s* timeslot. Therefore, fans had not gone down, but no one knew when—or if—it would even be airing.
decided to conquer one of the main tropes of sci-fi writing: time travel. Even then, Futurama went four seasons without having to use time travel to fuel an episode. There was a refrain from time travel being used in the show because it just creates problems: all sorts of paradoxes must be avoided when traveling through time, and the writers wanted to avoid this completely. When an episode is only twenty-two minutes long, it is difficult to pull off time travel in a way that keeps out the paradoxes and yet produces a valuable story.

It is nearly impossible to summarize all that happens in Bender's Big Score in short terms. Not only is time travel the main focus for once, but there are also multiple storylines in this movie which thread themselves through and around the discussion of time travel. After years of absence, the Planet Express crew is sent out on its first delivery to the Nude Beach planet. It is here where they give away their emails to “petitioners” (who are just dirty scammers) named Nudar, Fleb, and Schlump and become victim to spam emails about anything and everything. Bender opens a “Get RICH Watching Porn” email and fails to perform a virus scan, allowing an obedience virus to download into himself. A lecture about not giving away personal information on the internet, given by Professor Farnsworth, turns ironic when he does just this after receiving an email from The Spanish National Lottery. Despite warnings from the crew, he begins to enter his information and (unknowingly) signs over the Planet Express company to the scammers.

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25 A.1 “Roswell That Ends Well”
26 Professor Farnsworth, as he is keying in his information, declares, “And to think, I didn’t even know I had a ticket.” Just like he never had a ticket, he suddenly finds himself not having the company anymore, too.
Nudar and his two sidekicks are more than just scammers, though, they are also Sprungers.\textsuperscript{27} They find Professor Farnsworth’s safe (which is hidden in the wall behind a picture of the Professor standing by a safe in the wall), and Bender rips it open for them. Inside are mixtures of blood, urine, and stool samples from each member of the Planet Express crew (including Bender), as well as other valuable items. The scammers go insane over the information—until Fry walks into the room.

The scammers crawl over to him, sniffing him eagerly, saying that the important information they seek is in Fry’s pants. It turns out that what the scammers are attracted to is a tattoo of Bender on Fry’s butt. In the tattoo, one of Bender’s eyes contains binary code which, when read aloud, summons a green bubble. This “Code of Codes” as Nibbler calls it, is a time bubble which allows whoever enters the green sphere to go backwards in time.\textsuperscript{28} “You must not use the Code of Codes. With each and every use, you risk tearing the universe asunder,” warns Nibbler. Even after calling in other Nibblonians to fight and try to dissuade the Sprungers, they will not listen. Though the scammers are aware that the “legends” say it is dangerous, they are willing to risk it.

The Professor does not condone this time travel for the Sprungers cannot do it without “mucking up the past.” This is one of the reasons why time travel has been avoided throughout the previous seasons of \textit{Futurama}. It is difficult enough to write an interesting episode of a show that has prided itself upon its satire, comedy, and scientific accuracy, let alone contend with the “laws” of

\textsuperscript{27} Sprunging is a two-part activity. The first consists of sniffing around like a dog or pig searching for truffles. The second part is the physical reaction of the Sprungers’ necks when they are nearby valuable information. Their throbbing, inflated neck region is aptly named their “sprungers.” It is quite grotesque and imaginably obscene to look at, especially when Nudar fondles his own sprunger.

\textsuperscript{28} While Nibbler has thus far not been talked about in the paper, it is important to note here that he is an intelligent being. He acts like a dumb pet, but that is just a covert disguise to hide his true nature from everyone on Earth. This fact is established in episodes before \textit{Bender’s Big Score}, but those episodes are yet to be reached in this paper.
time travel. Yes, it is a cartoon and there are always conventions of cartoons that never make sense (because, after all, they are not based in our sense of reality), but since *Futurama* is a science fiction cartoon, the writers felt they had the duty to "accurately" portray this sci-fi convention.

There are all sorts of paradoxes to watch out for when traveling in the past. Professor Farnsworth warns the crew in "Roswell That Ends Well" that "You mustn't interfere with the past. Don't do anything that affects anything. Unless it turns out that you were supposed to do it; in which case, for the love of God don't not do it!" While also said for comedic effect, this little cautionary tip shows how confusing time travel can be. If one is sent into the past for some reason, it is ambiguous as to what should or should not be done. One of the most famous paradoxes to contend with is the grandfather paradox which tells of the impossibility of going back in time and killing, accidentally or otherwise, one's grandfather. If one tried to kill one's grandfather in the past, it simply cannot be done. If the grandfather is killed, then one's father could not be born and then the grandson would not exist to kill the grandfather in the first place. Paradox. This is just one of many paradoxes to think about if in need of a decent brain cramp.

*Figure 1* This diagram from Trinhmanhdo.com explains the grandfather paradox well.

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30 A play on this paradox will be later examined in "Roswell That Ends Well." It is essential to the show’s core.
Key to *Bender’s Big Score* is that the Code of Codes time traveling sphere is a paradox-correcting time code. According to Nibbler, “It works perfectly—except when it rips open the universe!” This ripping that Nibbler fears has already been shown in an earlier episode of the series “Time Keeps on Slipping.” After collecting “chronitons” in order to help the Professor’s mutant men grow faster, so as to be ready to play basketball against the Harlem Globetrotters, the balance of time in the universe has been affected. Suddenly, time skips ahead at random. So, while it is not exactly “time travel” in the way it is most often thought of, it is still ripping apart the fabric of space-time and must be corrected to quit the jumps and to ensure the stability of the universe. Blinded by his curiosity and desire to test the time sphere, Nudar steps in and does a practice run, returning to the previous night. He and a copy of himself reenter the conference room, where the Professor, enraged about time paradoxes, leans on his Smell-o-Scope, knocking a bolt loose which causes the Smell-o-Scope to fall forward, crushing the Nudar-of-yesterday.

“Ahh, paradox resolved,” the Professor says, wiping off his lab coat.

This scene is absolutely critical for the rest of the movie for it not only establishes how the time sphere is used, but how any and all paradoxical duplicates are doomed to be destroyed because their place is not in this universe, but in the one from which they traveled. Even the bald, mustachioed Head Museum worker, Lars Fillmore, who mutually hits it off with Leela, turns out to be a time-doomed duplicate who leaves Leela at the altar upon seeing Hermes decapitated by a chandelier at their wedding.
Soon, Nudar and his sprunger companions have plans to travel back in time to steal famous and valuable items, but there is a problem: the time code operates only one way. It can send them to the past, but cannot bring them back to the present. Enter Bender. In the previous four seasons of *Futurama*, it has been established that Bender loves to steal. A love of thievery, along with cigars, booze, loose women, and gambling, is just one of the many things that make Bender who he is, no matter how immoral this (and the other things) may be. Therefore, it is the obvious choice that Bender would volunteer to steal the stuff for the scamming Sprungers, then "wait it out for a few centuries in the limestone cavern beneath" the Planet Express building until the appropriate time to emerge. It is the perfect plan because a similar situation of Bender waiting around to be recovered appeared in "Roswell That Ends Well." Once Bender jumps into the time sphere, he walks up from the basement only a few seconds later. To everyone who is not Bender, basically no time has passed whatsoever. He is able to do this many times over thanks to the fact that, as a robot, he is immune to the effects of aging.

Of course, the use of the time code, despite its dangers, becomes more and more frequent as the movie continues. Hermes asks Bender to go back in time and find a Hermes with a body so that body can be brought to the present. Without a body, Hermes' wife, LaBarbara, has run back to an old fling, Barbados Slim, because their son, Dwight, "needs a daddy." Jealous and outraged, fire, thus singeing Fry's hair and beard, he realizes that he is in fact Lars and waits for the opportunity to meet Leela as Lars and to woo her. It all gets exceedingly complicated, but the beauty of animation clears up what gets bogged down through writing.

34 After returning from the Nude Beach Planet, all the members of the Planet Express crew receive spam emails to their various electronic devices. Bender has his email sent straight to his body since he is a robot, and after viewing some spam porn, an obedience virus is downloaded into his system which makes him completely submissive and obedient to the Sprungers. When Bender volunteers to steal, it is because of the obedience virus, but his love of stealing helps make the decision all the easier for him.

35 As the crew escapes to try 1947 and get back to their own time, Bender's head slips out from the cargo bay of the *Planet Express* ship and falls back into the Nevada desert. When they successfully get back to the 3000s, Fry laments the loss of Bender, but then they realize they could go to the site and his head should still be there, which turns out to be correct.
Hermes is willing to do anything to get "his" body back to save his marriage. Dr. Zoidberg, the flawed physician that he is, "recapitates" Hermes with his head on backwards. Hermes angrily chases a fleeing Zoidberg out of his office, even though Hermes should have foreseen this failure. While it is a comical chase, it also provides a camera transition into the conference room where the Professor is conferring with the Harlem Globetrotters about the time travel conundrum.

The Equation of Time:

\[ E = 9.87 \sin(2B) - 7.53 \cos(B) - 1.5 \sin(B) \]

Using the Finglonger he invented, the Professor points at the above equation on a futuristic white board, saying he believes the "paradoxicality equation to be unsolvable; ergo, time travel is impossible." But he cannot prove that, and so he asks if Ethan "Bubblegum" Tate and his "razzle-dazzle Globetrotter calculus could." Bubblegum says it looks pretty solvable and tosses the "chalk" to Sweet Clyde who dribbles it over to the board and then writes down this formula:

\[ B = \frac{2\pi(N - 81)}{364} - \int_{\frac{N}{\sqrt{\pi t}}}^{N} 3c \]

This formula proves that paradox-free time travel is possible after all, especially because of the very last portion of it. The last part is the "doom field" which is what takes care of the paradoxes that might occur because of time travel. The doom field rises exponentially, though, which means that it could "rupture the very fabric of causality." Before he is kicked out of the way by Dr. Zoidberg, still on the run from Hermes, Nibbler states to the Globetrotters that this very rupture is what he has been warning them about since the time sphere was first summoned.
When Hermes is unable to stop himself from crashing into the whiteboard, it gives Bubblegum another opportunity to discuss the fact that all duplicates are doomed; it is just a matter of time.

Having used Bender to steal quite a haul of loot from throughout world history, the Sprungers, now rich, wish to preserve the universe so they can enjoy their booty. Therefore, they want the time code erased and unusable to anyone else. They offer Bender a cassette tape which will erase it from his memory, but Nudar must completely vaporize Fry to get rid of the original source of the time code. Alarmed and frightened for his life, Fry asks why the tattoo just cannot be removed from his butt. Nudar claims that Fry might have memorized the code and therefore must be killed in order to ensure that it is completely gone forever.36

With his life in danger, Fry runs from Nudar (“Stupid naked aliens... I hate the future.”), grabs a mirror, and reads the time code from the tattoo. Before Nudar and the other scammers can stop him, Fry jumps into the time sphere, disappearing seemingly without a trace.

If he had ended up anywhere else, the audience would have been disappointed: Fry reappears back in the cryogenic lab where he currently resides frozen on January 1st, 2000. Fry is relieved to be back in a time where he feels like he belongs, away from the scammers, Lars, and all the other things he dislikes about the future. He would have been able to live out the rest of his life back in his own time had it not been for Bender. When Nudar suggests that it is okay to live and let live since they will never know “where the ass guy went,” Bender says that is awful nice of

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36 For anyone who has watched this show before this movie, Nudar claiming Fry might have memorized the code is a hilarious moment. Everyone knows, or at least it has been established, that Fry is a dope and a moron, so the thought of him having memorized anything at all is subject to laughter. Fry then proves his dopy tendencies by telling Nudar he cannot even remember his mother’s last name. In another comedic moment, Nudar tells him “It’s Gleissner,” and then proceeds to shoot and chase after Fry.
them and that Fry will be cozy and comfortable back in 2000. Deciding that it is better to be safe rather than sorry, Nudar tells Bender to go back in time just a few minutes before Fry gets there so that Bender can terminate him—or “concludify” Fry, in Bender’s words.

Bender arrives back in the cryogenic lab and gets bored while waiting on Fry to journey there. After drinking the six pack of Löbrau that Fry delivered with the pizza to the lab, Bender sees Fry frozen in the tube. He threatens him, but then realizes that this Fry is not the one he is supposed to kill. “That’s Fry before he goes to the future. I’m waiting on the one coming back from the future.” While Bender laments on how confusing the situation is, he breaks the fourth wall and states, “And I bet it’s going to get a lot more confusing,” warning the audience that they (if they are not already) need to seriously pay attention or risk getting lost for the rest of the movie.

And Bender, for once, should definitely be heeded. Since Bender drank the six pack so quickly, he, for the first time in his life, has to use the restroom. His problem is that if he goes, he might miss his opportunity to kill Fry like he has been commanded to do. Luckily for Bender, he can use the time code to go back just a short amount of time so as to instruct his past self (B2) to watch for Fry while current Bender (B1) goes to the bathroom. As B2 stands watch, a tuxedo-wearing Bender (B3) appears in the lab, stating that he’s “Bender from way at the end.” His job is to tattoo Fry’s buttocks; this explains how Fry was able to become tattooed without his knowledge. Fry then appears, going to the window as he had previously just done before Bender arrived. B2 threatens to kill Fry, and he begs Bender not to in the name of friendship. Torn between the orders given to him by Nudar (for the obedience virus is still in control of him), not
wanting to kill his friend, and by having to urinate badly, this Bender’s auto-destruct sequence is activated. Before he can explode, Fry shoves him into a cryogenic tube and locks it for 1,000,000 years. B2 is frozen before the timer on his auto-destruct goes off, essentially making him a bomb in suspended animation. Fry is able to leave the lab unscathed just as the first Bender leaves the bathroom. B1 attempts to catch him, but Fry gets on the elevator, and Bender is at a loss for where he might go. “All those times he blabbed on and on about his life in the twentieth century—if only I had paid the slightest bit of attention.”

For the next twelve years, Bender is on a manhunt for Fry, finally finding him after going to Yancy, Fry’s older brother’s, house. Yancy’s son, Little Philip, tells Bender that he went to the North Pole on a “fishy boat” so Bender trudges to the dock to purchase a ticket. Lucky for Bender, Fry is disembarking from a ship at that very moment, and then gets in a cab. Bender climbs into a “hybraxi” driven by Al Gore and after their drive goes awry, Bender is launched from the hybraxi and lands in front of Panucci’s pizzeria, which Fry has just entered. Once more in despair, Bender believes he will never find Fry—then he sees him in the apartment above Panucci’s and blasts Fry with a shot from the gun (or, so he thinks).

From this point, Bender’s Big Score must complicate and then resolve all the problems that it has raised. This is where the talented screenwriting of Futurama really proves itself. All the storylines that get introduced (such as Fry back in the 2000s working with a narwhal), which seemingly do not have anything in common except for the fact that the same cast of characters are in it, come together and are wrapped up. It turns out that the Bender in the tux (B3) was sent

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This is an important component for the end of the movie.
back to put the tattoo from dead Lars’ butt onto Fry’s so that the movie can happen in the first place.

As far as the scientific conclusion to this tale, the final few moments of the film prove just how correct the Globetrotters were in predicting the doomed nature of all time duplicates. A plethora of Benders climb out of the subbasement underneath the hangar bay of the Planet Express building. As Nibbler whimper in fear and transports himself to a different universe, the many Benders begin to pop and explode out of existence. All these doomed duplicates actually help Nibbler’s worse fear come to fruition: they tear the universe asunder. A giant crack rips through the sky above New New York, and Bender declares, “Well, we’re boned.” His gluttony for riches drove him to overuse the Code of Codes and tear apart the universe. This ending is the beginning for the next movie entitled Beast with a Billion Backs. While time travel helped to wrap all the plots up neatly and weave an intricate story, the abuse of the science created another problem in need of a solution. This was really quite clever on the writers’ behalves for creating an entirely different movie, stemming from Bender’s abuse of the time code.

Often times, movies leave one storyline open or unresolved (Futurama actually pokes fun at this quite a few times in other episodes), but in Bender’s Big Score, everything is wrapped up in a way that makes sense and is realistic for that world. The writers did not stoop to cheap tricks of writing in order to pull the plot of this movie off, but were able to create a movie with a complex and original plot that incorporated math, science, and the characteristic humor of the series. Bender’s Big Score was the comeback that was not only needed, but was beyond expectations for the first direct-to-video movie.
Science Excursion Two: Evolutionary Biology

A Clockwork Origin

Evolution is put on trial in this Season 7 episode. When Cubert Farnsworth, the Professor’s young clone/son, is unable to get into school because of protestors who are against teaching evolution, the Professor rushes to “the Science Mobile” (aka the Planet Express ship) to protest the protestors. The woman at the podium claims she does not understand evolution and therefore wants to keep her children from understanding. Professor Farnsworth takes over the podium and attempts to introduce the protestors to logic and science only to be interrupted by the talking, spectacled, suit-wearing orangutan, Dr. Banjo. They get into a hilarious argument about the “missing link” between man and ape, which hearkens to Darwin’s The Descent of Man. When

Figure 2 Dr. Banjo and the Professor argue over missing links

Professor Farnsworth is finally stumped and must admit that “one missing link is still missing.” He and the crew are off to try and find it, therefore proving evolution over creationism.
They successfully find the missing link (aptly named *Homo Farnsworth*), and the Professor donates it to a museum in New New York to join the hominid exhibit. An ironic and soul-crushing moment happens for the Professor after Dr. Banjo, the new museum curator, premieres a second exhibit for the newly found missing link which disproves evolution. It is of *Homo Farnsworth* riding on a dinosaur at the moment of creation, promoting creationism over evolution once again. Farnsworth does not “want to live on this planet anymore,” so he flees to live on a planetoid devoid of life.

At this point, it is important to discuss Bender’s role in this episode. He is angered at the fact that he is told that robots cannot evolve. His ego gets damaged for if there is one thing Bender hates, it is not being able to do something. Therefore, he tries to prove that he is evolving, like when he steals a suit from a boy (“You mean man. It was his Bar Mitzvah.”) for the bone premiere at the museum. He claims that the suit is so small on him because he “must have evolved.” The Professor immediately calls him out on his thievery and deals another blow to Bender’s ego. 38

His crusade to prove that robots can evolve then plays into the whole second and third act of the episode. When Fry asks about the drinking water on the planetoid where the Professor is going to be living, the Professor says it is alright, it just needs cleaned up. He releases Microscopic Nanobots that he created to eat up the toxins. After he checks to see if the water has been cleaned, he notices that the robots have become more complex. “What’s that you say?” chimes in Bender. “Those robots evolved all by themselves, you say?” It is evident that this phenomenon 38 Bender’s issue with evolution raises the stakes of evolution within the episode. Natural life evolving is on one plane while mechanical, or non-living, evolution is on an entirely different one. Can non-living things, such as Bender, truly evolve, too, or are they stagnant and forever the way they were created and intended? This is a question that fuels the controversy behind living evolution, let alone non-living evolution.
has boosted Bender's ego and given him the edge in his little war against the Professor on whether or not robots can evolve. The Professor angrily retorts, "It wasn't by themselves. I put them there. I'm a genius. Get over it!"

With Bender gloating and the Professor pouting, it is Amy Wong who notices that the nanobots have gotten bigger, evolving into "trilobots," which is a play on "trilobite," an extinct marine arthropod. And the evolution does not stop there. The crew has to hide from the trilobots because they devour everything in sight. Seeking refuge in a cave, the crew emerges in the morning only to be greeted by a prehistoric world made out of robots. The vegetation is made completely of metal and there are even dinosaurs, but a solar flare leads to the death of the dinobots. A robo-rooster crowing the next morning signifies that the robots have evolved again. This time there are even cavemen-like robots, introducing "humans" to this robo-evolutionary tale. One more day goes by and a robot that has evolved to be intelligent, like Bender, talks with the Planet Express crew, saying that she had theories about carbon-based life forms, but never had proof until meeting Fry and the others. They go with her to the Museum of Natural Robo-History to unveil her discovery of "Homo Farnsworth."

Once again taking over another podium, the Professor tells all the robots that it has been wonderful to see what they have turned into since he first created their ancestors. They all gasp in horror for a strange, fleshy being states that he created them and that they all evolved in a manner of days. "The Earth was made in eons, not days!" the robot equivalent of the Professor cries. This is when Professor Farnsworth explains that, relative to the robots, it did take a long
time but not to the outside observers.\textsuperscript{39} There is a clear shift in the argument of evolution versus creation in this exchange between the robots and their creator. The robots, created by the Professor and products of evolution, prefer to believe the creation-based story as truth instead of the reality of their being evolutionary creatures. In opposition to this, the Professor prefers to believe that he is evolved as opposed to having been created. The tension that is created between each group wishing to believe the opposite of what actually happened to them helps to keep moving the discussion of evolution versus creationism forward. It also aids \textit{Futurama} in avoiding taking a stance on either side. And going a step further with this, too, is that these cartoon characters are the creations of people who are evolved. The episode layers on varying aspects of the argument for and against each side of evolution to reveal just how complicated it can get. They do it in such an interesting way, though, with the robots wishing to have been created and not evolved, and that it creates a fresh arena for the argument.

After stating such preposterous things to the robots about them having evolved, the Professor is charged with crimes against science. In a parody of The Scopes Trial, it is \textit{Everyone v. Farnsworth} in the new trial of the century.\textsuperscript{40}

\textit{Farnsworth} in the new trial of the century.\textsuperscript{40}

\textsuperscript{39} This concept of “outside observers” is a nod to Einstein’s Theory of Relativity. The best example to provide is how time slows down as one approaches the speed of light—at least for the person approaching that great speed. To an observer on the ground, the person going nearly the speed of light would appear to be going quite quickly, but to the person on board the space craft, time actually would proceed to slow down. If the speed of light was actually reached, time would stop entirely for that person upon the spaceship. The speed of the craft, therefore, is relative to the person either on board or observing it. Even in a daily setting, though, the relativity of time can be felt. When exciting and fun events are happening, time always seems to “fly” whereas boring events tend to drag on.

\textsuperscript{40} The Scopes (Monkey) Trial, officially called \textit{The State of Tennessee vs. John Thomas Scopes}, is a famous Supreme Court case from the 1920s about teaching evolution in school. Scopes believed that biology in school could not be taught without also teaching evolution. This went against Christian beliefs of God as the Almighty Creator and therefore Scopes was put on trial for going against the state and teaching evolution. The trial had the atmosphere of a carnival, and there was a grand hoopla about the whole ordeal. There were two enduring outcomes of this trial: “that legislatures should not restrain the freedom of scientific inquiry, and that society should respect academic freedom” (from Steven Mintz).

For once, Bender actually does the noble thing and defends Professor Farnsworth, stating that the Professor is not disregarding evolution, just that he had a helping hand in initiating it by introducing the nanobots to the planetoid. Then, in typical Bender fashion, he declares that this is absolutely crazy and that they should find the Professor not guilty by reason of insanity. The jury leaves and when they reconvene in the morning, they have evolved into balls of energy. There is no longer a need for a trial for they no longer care about lowly physical beings.

Upon returning to New New York, the Professor shows Dr. Banjo a slide show of his pictures from their trip, and this final scene is a perfect example of what Futurama does best. Dr. Banjo finally gives into the Professor, saying that he might have witnessed some form of evolution, but it was only because of a knowing creator that it happened. This is the culmination of what the episode has been working towards since it started. Futurama brings up quite a controversial subject with this episode and yet is able to write a story that takes no firm stance on creationism
or evolution. The episode discusses and considers both sides of the issue, and the conclusion at the end is simply “we can’t know, but it may be both.” It is a brilliantly crafted episode that is relevant not just to Professor Farnsworth trying to prove Dr. Banjo that his theory of creationism is wrong, but also to our modern day arguments of equal terms. It is through the lens of *Futurama* that a realistic solution to the debate can be seen. “A Clockwork Origin” is able to touch on this sensitive scientific topic while still incorporating humor throughout to provide entertainment as well. It is episodes like this that really exhibit the talent of the writing staff, for they can elevate a cartoon into a discussion on actual, relevant matters.

This will not be the last time that *Futurama* discusses controversial subjects. Stem cells are brought up in a few different episodes, for example, and in Season 10, Episode 9, “Leela and the Genestalk,” genetic engineering is the controversial topic of choice. After Leela begins to mutate, she finds a secret genetic engineering lab, funded by Momcorp, in the sky. The episode, much like “A Clockwork Origin,” discusses both the good and bad aspects of genetic engineering. It can harm and help, though the show once again does not take a firm stance either way. The effectiveness of episodes like “Leela and the Genestalk” and “A Clockwork Origin” are based in their open discussion of these scientific topics as well as the wonderful

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41 On a science related note, the Season 9 finale of *Futurama* features a three part episode entitled “Naturama.” Sponsored by “Mutual of Omicron,” this parody of a nature documentary investigates the crew incarnated as salmon in part one, creatures of the Galapagos in part two, and as elephant seals in the final part. The episode discusses the mating rituals for each incarnation of the crew and once again, proves that just because the series is a cartoon does not mean it cannot also be educational and scientifically accurate as well.

42 This genetic engineering lab is hilariously called “Momsanto,” a play on Monsanto, a company which helps distribute agricultural products to support farmers all around the world. Solving hunger problems is the main purpose behind “Momsanto.” The controversy with Monsanto, which makes *Futurama*’s commentary on the company humorous, is that they use GMOs (genetically modified organisms). The use of genetically altered crops to produce more food quickly or in different environments is a science on the rise and has some people alarmed about eating such “unnatural” food. While it would help to solve world hunger problems, people are still skeptical of GMOs. Classically, *Futurama* shows both sides of the argument in their episode.
screenwriting, cast of characters, and animation that allow for these topics to be talked about in an entertaining fashion.

**What Happens in Cygnus X-1 Stays in Cygnus X-1**

Before digging into the next episode of discussion, “The Prisoner of Benda” from Season 7, the above picture needs to be briefly explored. *Futurama* often times includes a witty little phrase, warning, or message to its viewers during the opening title underneath the logo of the series. Not every episode includes these messages, but when they do, they are definitely worth noticing. The one pictured above is from “The Prisoner of Benda.” This title caption did not make sense to until listening to the audio commentary on the DVD. Clearly, it has something to do with Vegas, as in the common phrase “what happens in Vegas stays in Vegas.” Executive Producer David X. Cohen then explained that Cygnus X-1 is a black hole and once something goes into a black hole, it never comes back. Hence, the parallel between Vegas and Cygnus X-1 is established, and this witty little phrase is scientifically accurate and hilarious.
This is one of the many examples of "one percent" jokes, as Cohen calls them. These jokes are called this because they tend to be highbrow jokes about math, science, computer programming, etc. that only a small portion of the population will understand. They are jokes for all the nerdy fans as rewards, but they do not hinder the episode in any way for the 99% who will not get it.

Another such example of these one percent jokes appears in Season 3, Episode 10 "Luck of the Fryrish." At the beginning of the episode, the Planet Express crew is at a horse race. It comes down to a "quantum finish" and when checking the electron microscope, the announcers name Horse Number Three a winner. The Professor is outraged because the reviewers "changed the outcome by measuring it!" For most of the populous, this means absolutely nothing. Quantum physics tends to be a science that some people might have heard of, but most will not know anything about past its name. This is a lofty, highbrow joke since a lot must be understood about quantum physics (what it is, how it works, what the principles are) in order to even perceive that the Professor is making a joke. It is, as Cohen states, basically the only joke ever written about Heisenberg’s Uncertainty Principle (at least it was at the time). The Uncertainty Principle states the more that is known about a particle’s mass, for example, the less that can be known about its momentum and vice versa. Also, by measuring anything on a quantum level, the outcome can be changed because it has been observed, which influences it. Anything that is observed, especially on the quantum level, will behave differently than what it normally would without an observer.43

Therefore, it is unclear as to what a particle in the quantum level is actually like since there is no way to see it in an unobserved, normal state.44 Now it is clear why the Professor was so mad about them reviewing the tape to see who had won: by reviewing it, they affected the outcome.

43 It is similar to the common phrase "dance like no one is watching." We all tend to behave differently, i.e. dance wildly, when we believe no one could see this behavior.

44 In order to "see" it, inserting a photon into the experiment would be required. This would alter the momentum and velocity of the particle.
and therefore, Horse Number Three might not have been the actual winner. It is a fast, tiny joke, but hilarious if understood. *Futurama* has quite a few of these types of jokes sprinkled all throughout the series.

That aside, “The Prisoner of Benda” is a bit like *Bender’s Big Score* in that it places an emphasis on math and science to advance and complicate the storyline of the episode. In “The Prisoner of Benda,” there are three subplots—one more than the show usually has. The first one is between Leela and Fry in which Leela is concerned that Fry is only attracted to her because of her looks. The second is Bender scheming to steal the crown of Robo-Hungary’s emperor, Nikolai. The final subplot is what gets the ball rolling of the episode, and that is the Professor’s desire to live a bit dangerously.

The Professor and Amy are cleaning up the mind switcher that the Professor has created. Amy questions why he would want to put his mind in a new body and he explains that “as a man enters his 18th decade, he thinks back on the mistakes he made.” He laments that he wasted his younger years playing it safe, and Amy retorts that she wasted her youth “porking out.” This is when they both realize that if they put their minds in the other’s body, they can each get what they want: the Professor would obtain a body capable of living to the extreme and Amy would get a body that could use a bit of meat on its bones.

They switch bodies and quickly become dissatisfied. The Professor’s body cannot digest anything and Amy has a hard time chewing with the Professor’s dentures. She cannot eat like she wants to in this body. The Professor realizes that even Amy’s body, though much younger, still
is not up to the level of extreme living he wants. He demands that they switch back but when they sit down in the machine, it does not allow them to trade and get back into their original bodies. Once two minds have been switched, the machine will not let those same two minds switch again. All hope is not lost, though, for it may be possible for them to get back into their own bodies if they use a third person as a “temporary storage space.”

This is when Bender’s subplot comes into play. He happens to be walking by the room with the mind switcher in it and overhears the Professor and Amy talking about getting back into their own bodies. Because no one volunteered to help him with his heist, Bender decides that maybe he can do it all himself, as long as he can switch bodies and get the one he needs. He barges into the room, with his own selfish motives in mind, and offers to help. He switches minds with the Professor, sending Bender’s mind into Amy’s body while the Professor now inhabits Bender’s body. Goal accomplished, Bender walks off (as Amy) to go and start working on a “quick seduce-and-snatch.” The Professor (in Bender) and Amy (in the Professor) are once again stuck: the Professor would be able to get his mind back in his own body, but now Amy and Bender would be switched. The problem has not been resolved, nor does it look like it will be easily. In a dramatic moment, the Professor states that in order to get everyone back into their own bodies they are going to have to use...math!

This is actually a topology problem, known as “Hilbert’s Hotel.” According to Ian Stewart, author of Concepts of Modern Mathematics, topology is “the study of those properties of

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45 Plus he also doesn’t care “for these boobs flapping every which way.”
geometrical objects which remain unchanged under continuous transformations of the object."\(^{46}\)

This hotel, the geometrical object about to be subjected to continuous transformations, was theorized by the famous mathematician David Hilbert, and contains "infinitely many rooms."\(^ {47}\)

Even when all the rooms are full and a new guest comes along, there is no problem squeezing in that new guest. All the guests already in rooms just have to shift over one room. Even if a bus containing an infinite amount of new guests comes along, the hotel can still give them rooms by putting them in all the even numbered rooms and the previous guests move into all the odd numbered rooms.\(^ {48}\) This hotel does have a limit to the amount of people it can hold, though, and that is known as alef-one. "Alef-one is a hard number to describe. One way of putting it is that alef-one is the first ordinal number \(a\) such that no possible rearrangement can fit a set of \(a\) guests into \(\omega\) rooms. Alef-one represents an order of infinity that is essentially greater than \(\omega\) in a way that \(\omega + \omega\) is not."\(^ {49}\) This statement says that this number, alef-one, is the first number of a definitive series of numbers that is bigger than two sets of infinity combined. When the hotel reaches this capacity, which is greater than that of its infinite guests already in rooms plus the busload of infinite guests awaiting rooms, it can no longer house more guests. This concept of Hilbert's Hotel is one that can boggle the mind, especially trying to imagine such large quantities as infinity, two groups of infinity combined, and then alef-one. But this theorized hotel will tie into "The Prisoner of Benda," explained in the following paragraphs.


\(^{48}\) ibid. p.75; The infinite busload of guests is symbolized by the Greek letter Omega (\(\omega\)). Omega is the last letter of the Greek alphabet which may be why it was chosen to represent the number after all the finite numbers.

\(^{49}\) ibid. p.75; An ordinal number is one that defines an object's position in a series: first, second, third, etc.
Throughout the rest of the episode, everyone goes into a body switching frenzy. Amy tricks Leela into switching bodies; Fry switches bodies with Zoidberg; Bender makes a deal with Emperor Nikolai to switch bodies with him so that Nikolai can experience what it is like to be a “lowly bending unit.” Because the Professor has run off with Bender’s robot body to join the circus, Bender must get out of Amy’s body and into a robot body. He then trades minds with Scruffy the Janitor’s wash bucket in order to get Nikolai into the wash bucket and Bender into Nikolai.

It would seem as if Bender succeeded in his heist. He “is” the Emperor of Robo-Hungary now and therefore, the crown, the jewels, and the power are all his. But everything begins to unravel in the last act of the episode. Fry and Leela keep intensifying their “who is more disgusting” contest, exhibiting the worst qualities of the Professor’s body and Zoidberg’s in order to prove to the other that physical attractiveness is of no concern in their relationship. Then, it turns out that Nikolai’s wife, Flavia, has been having an affair with his cousin, Basil, who wants to kill Nikolai, even if it is Bender in that body and not the real emperor. The Professor comes to discover that, although his body is old, it is his and he wants it back. All three story lines are united when the Professor, in Bender’s body, comes to Bender’s (in Nikolai’s body) rescue and staves off Basil. Fry and Leela’s story concludes during this fight scene for they are watching the

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50 Amy can gorge and enjoy eating while in Leela’s body and Leela, who is under the assumption that they can switch right back, can get a senior discount at the movie theater with the Professor’s body. Fry switches with Zoidberg in order to get himself into a repulsive body to prove to Leela that she, too, is only attracted to him when he is physically good looking, since she had accused him of this earlier. He wants to give her a taste of her own medicine.

51 Scruffy’s wash bucket is now in the body of Amy. It goes off to find Scruffy and the two kiss and embrace until Scruffy pushes Amy/wash bucket away because the romance would be “sweet at first” but then it would just be wrong for the two of them. This is about the biggest role and moment for Scruffy throughout the entire series. For that small moment, this minor character who is often placed in just to be a joke, gets a little spotlight.
news after having slept together as Zoidberg and the Professor, and they see the coverage of the fight.

The episode still is not quite done, though. There is the tiny issue of them all being out of their bodies and in someone else’s that needs resolved. This is when the Harlem Globetrotters are once again brought in to help save the day. On the futuristic white board is a long equation that the Globetrotters are discussing. This theorem is the Futurama Theorem which was actually made by Ken Keeler, an Executive Producer for the show (see the Figure 5 on the next page). He had to create this theorem specifically in order to resolve the episode and make it work. It essentially states that as long as there are two extra bodies, everyone can get back into their original body again. A montage of this body switching shows everyone trading and the Globetrotters are used as extra storage space to ensure that no two minds who have already switched try to switch again. This is reminiscent of the previously discussed Hilbert’s Hotel, yet has a twist on it. The act of trying to get everyone’s mind back into the proper body is similar to trying to house more guests in the infinitely roomed hotel. But it is much trickier in “The Prisoner of Benda.” The guests in the hotel can just keep moving forward into a new room whereas the cast of Futurama must have the correct amount of bodies to ensure that no two minds try switching twice, halting the process of returning the mind to its rightful owner. The addition of two fresh minds that have not been switched with anyone allows for extra “rooms” for the minds of the others until they can be returned to the proper owner. An even number is needed because if only one Globetrotter offered to help switch everyone back, one person would still be left with the wrong mind.
Once again, *Futurama* proves why it is much more than just a cartoon show. The fact that this mathematical theorem not only had to be created for the show, but actually works, is phenomenal. The plot of this episode would still be pretty cool even if the math did not quite work out behind it. There are plenty of shows where the resolution, if thought about, actually does not or cannot make sense logically, but it is still accepted at a surface level because it is a fictional show and therefore, not subjected to all the rules of our own world. But *Futurama* never sells itself short. The show even pauses for a moment to show Keeler’s formula on the board, displaying with pride, the work he put into it. Other cartoons pale in comparison to the work that goes into writing this show. That is just another reason why *Futurama* is much more than just the playful antics of its cast and crew. The core of the show is based upon intellectual and thought-provoking ideas and that is absolutely astounding. The Futurama Theorem was the first, and most likely only, mathematical proof to be used for the sole purpose of entertainment. Keeler also had another motive for inventing this theorem: he wanted to popularize math with the viewers who would be watching. Math is not always fun and many people do not enjoy it, but in the case of “The Prisoner of Benda,” math becomes pretty awesome.

![Figure 5 Screenshot of Futurama Theorem from "The Prisoner of Benda"](image)
Möbius Drag Strip, Man

In this final example of science in Futurama, the focus will be on Season 10, Episode 3 “2-D Blacktop.” According to the comments on the DVD, this was one of the most complicated episodes to produce both in terms of the story and the animation. Futurama uses 2D animation which is hand-drawn, but sometimes for complicated ideas or images, computer generated animation is necessary. Cleverly, though, the animators are able to blend the 3D to look like 2D, and it is virtually seamless. There are hints every now and again that there is 3D animation within certain episodes, but it never stands out enough so as to distract the viewer from the storyline. After listening to the audio commentary, the commentators would often point out the 3D, so it became clearer when it appeared in the show. It is still quite sly, though, and unless the viewer really scrutinizes the episode, it is bound to be missed. The 3D graphics often produce the stunning space-scapes or are used for chase scenes.

And speaking of 2D versus 3D, the subject matter of this episode is all about dimensionality. After the Professor turbocharges the Planet Express ship’s (which he now refers to as “Bessie”) matter compressor, the crew is off to deliver a chandelier—or at least that was their assigned mission. Before they can go anywhere, though, the ship malfunctions and crashes back down into the hangar bay of the Planet Express building. The Professor is outraged that they have ruined his Bessie and leaves after the ship has been towed away.

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52 This claim of being one of the most complicated episodes in terms of story is debatable. It would seem as if Bender’s Big Score or some of the episodes that flashback continuously, like “Luck of the Fryrish” are much more complicated. While Bender’s Big Score is a film and has an hour and a half to complicate and resolve itself, the flashback episodes tell two stories at once, each only about eleven minutes long so as to fit the time allotted, and are more difficult to complicate and resolve within that short amount of time.
That same night, the Professor breaks into the impound lot and fixes up the ship with spare parts from the other wrecked ships and takes off, looking worse for wear. On his way back to the Planet Express building, he blocks all traffic, driving stereotypically slow as an old man would. Fed up with his driving, two ships fly around the others and flank the Professor. They are a group of street racers who antagonize the Professor for his slowness. Irritated, he challenges them to a race of two laps around Central Park and whoever loses has to pay the winner’s Medicare co-payments for a year. While it seems that the Professor will lose, as Bessie is covered with shards of garbage and spare parts, he has a trick up his sleeve. He tips the ship to shake the parts off and reveals that he did more than just make it flyable: he completely remade the ship into a racing machine.

As the three ships begin racing, they get into a bit of trouble when the police pursue them. The street racers “turn and burn,” leaving the Professor as the sole target of the police. The Professor just laughs at them and then pulls a “dimensional drift.” He yanks down a lever, sets the ship into a tight turn, and disappears. As he explains to the racers, the new Planet Express is complete with a 4D intake manifold. This “sucks in [the] fourth dimension, creating a frictionless wormhole” enabling him to slip into the higher dimension for a short amount of time.

Escaping from the cops via the dimensional drift is not the only time the Professor uses it. When the Professor and his new crew run into Leela at the stop sign in her new, boxy, safe ship, she challenges him to a race, saying that she can still outdrive him “even in this clunker.” Challenge accepted, they meet up at a “glorked up” Möbius drag strip to prove who is the best pilot.
This is, of course, a play on a Möbius strip. But what exactly is a Möbius strip? It is a topological shape with only one side. Remember that topology, as stated earlier with the discussion of Hilbert's Hotel, deals with geometrical shapes and their properties that remain unchanged during continuous transformation. During the transformations of these objects, like taking one shape and turning it into another through stretching or compressing, there are rules in order for the transformations to remain continuous. Stewart tells us one such rule is that points close together to begin with must also end close together. Objects can be bent or stretched, but cannot be cut. Cutting breaks up the object, and points that were once close are no longer. The only exception to cutting is if the points are reattached close to each other, changing the object only minimally. Therefore, "triangles and circles are the same thing in topology" because a triangle can bend and stretch into a circle without cutting anything. Think of it sort of like Play-Doh: a triangle can be made and then rolled between the palms of two hands to create a sphere. In topology, angles, lengths, and areas can all be transformed and therefore, must be forgotten.

One fun example of topological thinking is the example of turning a doughnut into a coffee cup which exhibits topological equivalency. Because a doughnut has one hole and a coffee cup has

Figure 6 Coffee cup to doughnut

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54 With which I'm sure the members of the NNYPD would be quite impressed.
one hole via the handle, the doughnut can thus be stretched and transformed into a coffee cup without violating any of the rules for continuous transformation.55

Now that there has been a bit of an introduction to the interesting nature of topology, let us get back to that Möbius (drag) strip from earlier. A Möbius strip is a very curious bit of topology in that it is a shape with exactly one edge. This band, which can be made in two dimensions with a strip of paper by joining the ends with a 180° twist, is more “famous” for another property, though: it only has one side. If the same strip of paper is connected end to end, it would make a cylindrical shape, so would be easy to paint one side purple and the other side orange.56 With a Möbius strip, though, these colors would end up meeting and blending together somewhere because it only has one side.

This one-sidedness of the Möbius strip gives it another fascinating property of being non-orientable. While on the strip, there would be no concept of left or right as long as objects are not moved around. This concept is hard to understand since everything in the world around us has clear directions and even if one does not move, it is still clear which way is left and right. Since the Möbius strip only has one side, left and right have no meaning while on the strip and can actually become each other once movement is introduced on the strip. In Stewart’s book, Concepts of Modern Mathematics, he introduces a problem involving mittens. If a person is living upon a Möbius strip and happens to wake up one morning with only two left mittens, that person would be able to send one of them around the strip one time and come back with a right

56 In reference to the hair colors of Leela and Fry.
mitten. This is because of the inherent one-sided nature of the Möbius strip that transforms the mitten from left to right.

In “2-D Blacktop,” this one-sidedness of the Möbius strip is evident when the rules of the race are being described: “Once around both same-sides of the half-twist and back to the starting finish line.” As the Professor and Leela pass by the crew and street racers, Hermes cheers that they have one lap to go, but one of the street racers corrects him and says, “No, half a lap. You forgot on the Möbius strip two laps is one.” As if he understands, Dr. Zoidberg chuckles and states, “You kids and your topology.” Not only does this track act as a way to introduce topology on a very elementary level, but it also gives a way for the final act of the episode to take place. Because Professor Farnsworth is desperate to win and not be “beaten by a minivan,” he engages his dimensional drift to take a shortcut and get him to the start/finish line ahead of Leela. No longer are they racing side-by-side, but rush head-on towards each other. Refusing to relent, both continue speeding towards the line and end up colliding, squashing Fry in between the two ships.

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This accident launches Leela, Fry, the Professor, and Bender (who was taking a nap in Leela’s ship) into the second dimension.58 While Fry and Leela are intrigued by their new appearance (Fry complaining that he looks like “some stupid cartoon character” and Leela happy that she has “lost some weight...all of it!”), the Professor is amazed that their collision at “relativistic speeds has collapsed [them] down into two dimensions.” Using an unhatched, two dimensional egg in a nest in a tree, the Professor is able to help explain the two dimensional world for the crew and the audience. When Bender wants to see the egg, he attempts to move past Leela but just bumps into her. The Professor then explains that in this dimension, objects must be moved over or under, they cannot be moved past. This is because in the second dimension, there is only length and width; depth does not exist. Depth is a characteristic of the third dimension. Without depth, moving past anything is impossible. Therefore, Bender steps over Leela and the Professor states that, “If we were in the third dimension looking down, we’d be able to see an unhatched chick in it. Just as a chick inside a three dimensional egg could be seen by an observer in the fourth dimension.” Bender freaks out, declaring that the Professor is dumb because Bender cannot picture a fourth dimension.

Bender reacts how many of us would, though maybe with a bit more anger and rudeness. The nature of the world we live in is not something we spend a lot time thinking about daily. What makes the fourth dimension different is that space and time are unified into one thing. As beings in the third dimension, we cannot see into the egg because we occupy the same dimension as it. Therefore, we just observe it as is. But someone in one dimension above us, like the space whale

58 When they collide, Zoidberg cheers, “Yay! A tie!” while everyone else looks on mortified. Amy, as she whimpers in sorrow, asks, “Do you think they’re dead?” In a quick moment of foreshadowing, and humor, Hermes answers with, “No, no. I choose to believe they’re in some other dimension screaming in agony.” He was at least half right in his “consolation.”
from the Season 8 episode, "Möbius Dick," which resides exclusively in the fourth dimension, would be able to see into the egg. 59 This “one less” concept of dimensions is also exhibited by Fry, Leela, and the others when trapped in the second dimension. They are only able to observe one dimensional objects, like line segments. Someone in the third dimension would be able to observe the 2D world with its length and width, not just line segments.

The longer they are trapped in the second dimension, the more obvious it becomes to the Planet Express crew that they will not be able to live there. They must find a way back to the third dimension, despite the Professor having said they are trapped there. The problem is their bodies are not meant to live in a two dimensional world and cannot swallow or digest food because of their 3D digestive systems. Having a three dimensional digestive tract, with a definitive beginning and end, would split the crew members into two halves of a person in the second dimension. The beings that are native to the 2D world digest food by dissolving it in their mouths and spitting out the waste, most likely utilizing a sort of osmosis-like digestion. While fleeing from these native beings, who now wish to kill their guests for introducing them to the concept of the third dimension, the crew clammers aboard the Planet Express. Leela suggests doing a dimensional drift in order to try and return to their world. “If it went through the fourth dimension before, maybe here it will go through the third dimension!”

59 In “Möbius Dick,” the story of the Professor’s first crew is explained to Fry, Leela, and the others. When sent on a mission to pick up a statue commemorating the first crew, Leela, Fry, and the rest are warned to not fly through the Bermuda Tetrahedron no matter what. As they are about to head home, a typo on the statue puts them behind schedule, and Leela is forced to traverse through the Bermuda Tetrahedron in order to make it back to New New York with the statue in time for the ceremony. It is within the tetrahedron where they are attacked by a space whale that lives in the fourth dimension but dives into the third to feast. Once swallowed by the whale, the crew comes to find out that the whale actually has a Möbius colon as well.
Unlike before, though, they will have to not just drift temporarily through the dimension, but will have to “accelerate to dimensional escape velocity during the drift” in order to return permanently to the third dimension. They burn down the Bonneville Salt Flatlands and pull a drift once they have reached a speed that pleases Leela. As they drift, they pop into an in-between dimension, slowly puffing up to 3D as they do. Although dimensional drift and “dimensional escape velocity” are just pseudoscience created to make the episode work, it does save the crew and the day. What is interesting is the idea of dimensional drift into the fourth dimension as the equivalent of time travel. As seen in “Roswell That Ends Well,” the crew drifts through time back to 1947. This jaunt through space-time, or the fourth dimension, would just be a longer dimensional drift than what the Professor uses to cheat during his races. Essentially, the same concept is at work in both of these episodes. In the trip back to Roswell, as well as when dimensionally drifting, a wormhole is opened in order to get from point A to B. Wormholes become the highway of time and allow passage from one point in time (and space) to the other, whether that means going back to Roswell in ’47 or trying to evade the police. Although it is all just theory and imaginings (for now), it would be quite a feat if scientists were able to open up a wormhole and dimensionally drift, using topological concepts, just as the Professor and Planet Express do.

**Pseudoscience**

After displaying their scientific aptitude time and again, one of the best moments is when they make a spoof of it. In the seventh episode of Season 10, “Calculon 2.0,” Bender and Fry are highly dissatisfied with the replacement actor on their favorite soap opera, *All My Circuits*, who was hired after Calculon killed himself during a competition in order to create a more realistic death scene. Therefore, they decide to exhume Calculon’s remains, visit the Robot Devil to
retrieve Calculon's programming from Robot Hell, and then have the Professor use "science" to reanimate Calculon. 60 What ensues is hilarious. The Professor tells everyone to put on their "protective suits," which look like satanic robes, "then place the body equidistant from the five nearest wireless network hubs." The hubs connect with electricity, forming a pentagram. Calculon's corpse then levitates in the pentagram. Finally saying what is on everyone's mind, Hermes Conrad speaks up: "This is the least scientific thing I've ever seen." He is immediately shut down by the Professor, though, who carries on with the reverse-installation of Calculon's operating system. 61

Once again, Hermes complains about how "this could not seem less scientific" but it nevertheless works. As Calculon cheers and prattles on about how he is alive, the Professor, who is holding a skull on a spike and a three-armed candelabra, cries, "Hail science!" as his hood falls back, revealing "666" on his forehead. Clearly, the spoof on an occult resurrection is the main point to be gathered by this, but this resurrection works so well because it avoids of the overused Frankenstein style of bestowing life upon something via lightning. All throughout the series, Futurama refuses to use the lightning method attributed to Victor Frankenstein. They do make fun of it, though, like in the second episode of Season 5, "Jurassic Bark." The Professor states that they need to harness the power of nature in order to bring Seymour, Fry's dead and beloved dog, back while lightning cracks across the stormy sky seen through the open Planet Express hangar bay. But this is misleading for he then cries, "I speak, of course, of molten lava deep

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60 The robot equivalent of a soul or spirit force.
61 This includes Amy playing a disc backwards that states, "Rise from the dead in the name of Satan," and then the Professor slays a mechanical goat to get a spare circuit board. More than this, though, in an earlier episode from Season 8, Bender actually commits suicide after threatening it multiple times. We see his operating system loose in Hell, just like Calculon's. This recalls back to something earlier in the show, a motif which will be discussed starting in the next section.
within the Earth’s core. To the subbasement!” This molten lava is the power of nature he wished
to invoke, not the lightning. As if the show had not displayed its humorous take on scientific
matters before this, this instance really sums up just how unafraid the writers are to make fun of
themselves and the conventions of science fiction.

This combination of humor and scientific accuracies within *Futurama* is just one area in which
the series excels. Without a superb and highly educated staff of writers, none of the above
discussed scientific principles and concepts would be properly and cleverly conveyed. Because
of the writing, the staff is able to introduce the general public to some lofty scientific
information. The art of tactful screenwriting is the vessel for this science to be broadcast to
people with varying levels of knowledge about all types of science and a further examination of
the writing itself will be discussed in the next section.

**Act II, Sc. II**

*Memboray*62

Implementing accurate science and mathematical principles throughout *Futurama* is not the only
thing that sets the show apart from other cartoons. The writing of the series is also fundamental
to its importance and value as a show for it is one cartoon that utilizes linear storytelling as
opposed to episodic. What is meant by this is that as the series progresses, later *Futurama*
episodes often call upon details or situations from earlier episodes. This is in contrast to even *The
Simpsons* which, although created by the same person, has a different style to it. The lives of the
Simpsons are viewed episode-to-episode with no distinct hearkening back to earlier episodes.

62 In “Crimes of the Hot,” the Professor points a ray gun at his head and Fry begs him not to do it. “Don’t do what,”
the Professor says. “Don’t use this memory ray so I can remember what happened back then?” Mid-speech, he turns
the gun around to reveal the other side on which is printed “Memoray.”
This also goes, for the most part, for other shows like *Family Guy* or *American Dad* (both created by Seth MacFarlane). Therefore, the use of “show memory,” or linear storylines, is what makes *Futurama* more geared towards being a literary work while also focusing on entertainment.

The thread of connectivity will be shown via a few of the most prominently connected episodes in the series:

“Space Pilot 3000” (1.1)  
“Love’s Labours Lost in Space” (1.4)  
“The Day the Earth Stood Stupid” (3.7)  
“Roswell That Ends Well” (4.1)  
“Jurassic Bark” (5.2)  
“The Why of Fry” (5.8)  
*Bender’s Big Score*  
“Game of Tones” (10.10)

This set of episodes all focus on the connection of Fry being in the future and why it was not just by happenstance that he ended up there. But there are many more examples of this “show memory” than just this one thread. For example, the episode “Parasites Lost” from Season 3 is connected to the finale of Season 5 “The Devil’s Hands are Idle Playthings.” When Fry got the worms (as discussed in the Act II, Sc I) from the egg salad sandwich, he was able to play the holophonor as he never could before. In attempt to impress Leela again and “win her heart with the holophonor’s art,” Fry makes a deal with Robot Devil in “The Devil’s Hands are Idle Playthings” and wins the Robot Devil’s hands. These automaton hands transform Fry into a sublime holophonor player who is even commissioned to write an opera.63 Another example of connectivity would be Bender’s desire to become a folk singer, established in the second episode “The Series Has Landed.” There are multiple episodes throughout the series where Bender is

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63 5.16 “The Devil’s Hands are Idle Playthings”
either momentarily transformed into a folk singer via a magnet stuck to his head or where he has
gone on tour with folk singer Beck (3.13, “Bendin’ in the Wind”). This desire culminates in the
episode “Forty Percent Leadbelly” from Season 10. In it, Bender finally gets to write and sing his
own folk music—with disastrous consequences. By establishing minute details or ideas, such as
the holophonor and Bender’s love of folk singing, early on in the series, it gives the chance for
pay off later on and also helps in creating more ideas for episodes.

Welcome to the World of Tomorrow!

While the details of Fry’s arrival in the future have already been discussed at the very beginning
of this paper, it is important to revisit it briefly before discussing how the pilot is the most
important episode to the series. Unlike other shows, the pilot is almost constantly referenced
within Futurama; at times, they even make fun of it like in “Law & Oracle” (8.4). The opening
of this episode has Fry playing—and losing—an arcade game, just as he did in the pilot.
Zoidberg tells him “you stink, loser” just as a little kid does in the first episode. Then,
impersonating the owner of Panucci’s pizza, Leela tells Fry that they have a “pizza goin’ out,
come on!” It is a comical interpretation of their own pilot and for the hardcore fans of the show,
it is doubly amusing thanks to the reliance on show memory.

But let us examine the first three minutes of the series that lead up to Fry’s freezing. These three
minutes contain a vital clue that hints at potential episodes to come. After Fry resigns himself to
another lousy year, he blows his noisemaker which snaps back, hits him on the nose, and knocks
him off balance. He tumbles backwards into the cryogenic tube, of course, and it seems as if it
were all an accident. Yet, the writers dropped what is commonly called an “Easter egg” in this
moment. When Fry’s noisemaker hits the floor, we have a shot underneath the desk where he
was sitting. Most people tend to focus on the colorful noisemaker, but looking past that, one would notice that there is an odd shadow projected on the back of the desk.

This shadow suggests that Fry was not alone when he entered the lab, even though nobody had answered Fry’s call when he had first arrived. Who or what does this shadow belong to? This shadow was very easily missed by most, and this was what the creators intended. They had ideas for the series that they wanted to establish immediately so that they could go back to that reference point and tie it together. What is to come of this shadow creates an intensely interwoven and planned storyline that, because of the implantation of this one detail, seems natural to the series, not fabricated to complicate and add interest if the series began to run out of ideas. Through the help of animation, this scene takes foreshadowing to a whole new, quite literal, level.

This singular detail is what makes “Space Pilot 3000” incredibly vital to the rest of the series. While most pilot episodes are there just to get the characters introduced, this sets up a web of episodes to come later. Even at the end of the episode, when the Professor is going to give Leela,
Fry, and Bender their new career chips so they can work for him, another small detail is introduced that will pay off later. He gets the career chips from his previous crew out of a manila envelope labeled “Contents of Space Wasp’s Stomachs.” In “The Sting” Episode 9 of Season 5, the crew is sent to harvest honey from space bees, and there in the honey comb lies the old Planet Express ship from that very crew. It is often the smallest of details that somehow make their way back into the show at a later point in time.

**Vergon 6**

In the fourth episode of the first season, “Love’s Labours Lost in Space,” the culprit behind the mysterious shadow on the cryogenic lab desk is saved by the crew. Sent on a mission to save the animals of the doomed planet Vergon 6, Leela spies a creature that is not on the list. She names him Nibbler and takes him aboard, despite Fry and Bender’s desire to make barbecue out of him. While it is not explicitly pointed out or clarified, for those who spotted the shadow on the desk, it is clear that the shadow is the exact silhouette Nibbler would cast. This detail, too, went unnoticed by most because nobody was prepared for the interconnectivity that this show established. It is not until a later episode that Nibbler further reveals his secrets and gains more importance in the show, but the detail has been placed there, just waiting to be revealed to the viewers. It is also revealed in this episode that Nibbler excretes dark matter (a type of matter which cannot be seen with our eyes or telescopes, yet accounts for most of the mass of our Universe), which is used as fuel in the *Futurama* universe. This episode and Nibbler’s ability to poop dark matter come back in the third movie, *Bender’s Game*, in which Mom has all the Nibblonians in cages and force feeds them so that they produce more dark matter for her capitalistic gain.
The Day the Earth Stood Stupid

When giant brains attack the Earth, the only one who can save all of humanity is our anti-hero, Philip J. Fry. Now, Fry has been called a dope, moron, etc. by the Professor throughout the series when angered by his stupid great (30x) uncle. Fry definitely is not the brightest of all people, so having to save the rest of humanity from intelligent and evil brains seems like a hopeless situation. But in this seventh episode from Season 3, another detail is established about Fry that will play an important role in upcoming episodes.

First, though, let the scene be set. After returning from a pet show, in which Nibbler won “Dumbest Pet in Show,” the crew is spared a delivery to the planet Tweenis 12 because it has been annihilated. This is when Hermes brings up the point that multiple planets have been destroyed, and the next one in line is Earth. Nibbler gets worked up, babbling and whimpering, then jumps out of the building’s window and runs off. As Leela attempts to track him down, “raw, dripping ham” in her hands to entice him, a giant brain busts out of a dumpster and soon two more join it, pursuing Leela down the dark alleyway.

She rolls through an opening in some chain-linked fence only to see Nibbler in a little space outfit, pulling a spacecraft out of a rickety shed. He climbs aboard and is prepared to leave, but cannot desert Leela, the one who saved him from Vergon 6. He swoops down, and she comically squeezes into his little ship and they take off.

First, Nibbler being declared the dumbest animal will soon turn ironic as the episode advances and it turns out he is quite intelligent. Second, the destruction of Tweenis 12 is good news, according to the Professor, for the planet paid for the delivery in advance.
Act two of the episode begins with the brains terrorizing New New York (and presumably the rest of the world). They target their rays on the Planet Express building, and everyone inside acts like a moron: Bender cannot understand that he is a robot, the Professor has his head sandwiched in the middle of a Newton’s cradle, and Zoidberg is bouncing around on a table whining like a child. The only one acting normal is Fry, which immediately discloses that there is something unusual about him. Why are the brain rays not affecting him in the same fashion?

This is answered when the show returns to the Leela and Nibbler subplot. He has taken her with him back to his home planet where the other Nibblonians explain to Leela that the Brain Spawn, as the Nibblonians call their enemy, arose a short time after the Big Bang and ever since then, they have been fighting them. When she questions why they are attacking Earth, Nibbler explains that the brains hate all other forms of consciousness “thus they travel from world to world, making everyone stupid in order to wipe out all thought in the universe.” Nibbler goes on to explain that they only have one hope for salvation and that is through Fry whose “bizarre brain-wave pattern makes him immune to the Brain Spawn attack.”

Everything in the universe, from animals to robots and even “certain trees,” generates the delta brain wave, except for Fry who has somehow managed to gather together “a random assortment of other brainwaves into a working mind.” In order to kill off or force the Brain Spawn to surrender, Fry must approach the ruling brain and “disable it.”

The issue of why Fry’s mind is so “special” is not resolved in this episode. He is, however, able to successfully out think the brains and save the day, even though his goofy/idiotic tendencies
still hinder him a bit. While it is not crucial to the plot of this episode to understand why Fry has a different brain from everyone else, it is crucial to the series as a whole. “The Day the Earth Stood Stupid” is a launching point to further the entanglement set in motion from the pilot.

**Roswell That Ends Well**

The premiere episode of the fourth season of *Futurama* finally answers the question raised in “The Day the Earth Stood Stupid:” why is Fry missing the delta brainwave that everyone else has? In order to discover the answer, the crew must travel to the past. While preparing to watch a supernova, Fry volunteers to go and make popcorn and disregards the “do not microwave” sticker on the aluminum foil covered Iffy Pop. The metal in the microwave causes everything to “smell like blue” and a line of blue energy consumes the back half of the ship. As the supernova explodes, a wave of red energy envelopes the front half of the ship, which then meets the blue in the middle. The result of these two energy waves meeting up is the creation of a wormhole which sucks the *Planet Express* ship back in time.

When they emerge from the wormhole, not only has the ship “taken on a lot of clocks” and the popcorn has been reverted back into just a cob, but there is no traffic around Earth. An ozone layer “that’s never been there before” is now around the planet, and their navigation fails as they approach the planet. The crew crashes in what turns out to be Roswell, New Mexico in the summer of 1947.

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65 The joke to be made here is poking fun at Jiffy Brand popcorn which can be quite…unpredictable…when attempting to make popcorn. Sometimes it pops to make a delicious snack and then other times…not so much.

66 As stated in the discussion on *Bender’s Big Score*, “Roswell That Ends Well” is the first episode where the creators of *Futurama* finally decided to tackle the convention of time travel.
During the crash landing, Bender was the only one to not have buckled himself into the *Planet Express* and is therefore launched out the window. Someone has to collect all of Bender’s parts and the crew readily shoves this duty off on their usual scapegoat, Dr. Zoidberg. Taking Bender’s head with them, Leela, Fry, and the Professor return to the *Planet Express* and leave Zoidberg to his task. Before he can complete this task, however, Zoidberg is intercepted by the US military and is taken with Bender’s dismembered body to Roswell Air Base.  

Back inside the ship, the Professor is figuring out what happened to the ship and its crew, noticing that the once “high-precision digital chronograph” has “turned into a pinup calendar.” More than this, though, it happens to be July 9th, 1947. When Bender amazedly proclaims and questions the fact that they have gone back in time, the Professor retorts with, “Doy! Some idiot must have put metal in the microwave. And the microwave radiation combined with the gravitons and graviolis from the supernova, blasted us through time itself.” That’s when Leela rushes in, with a newspaper in her hand which shows one of the air base men with the parts of Bender’s body. They come to the realization that Bender’s dismembered body is what the military thought was a spacecraft and that the alien they captured was Zoidberg.

![Figure 9 Zoidberg with the Roswell military](image)

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67 Hence, we have *Futurama*’s explanation for the Roswell UFO Incident.
The crew then splits up: Fry and Bender’s head are on a mission to recover Bender’s body from the base, and Leela and the Professor are on a search to purchase a new microwave. Because they “tore the universe a new space hole all right, but it’s clenching shut fast,” they now have a deadline of less than twenty-four hours in order to get back through the wormhole and to the future. Otherwise, they will be stuck in 1947. Fry decides that while they are on the base, he can go and visit his grandfather Enos who is stationed there. As discussed before in the section on *Bender’s Big Score*, the Professor rightly freaks out, telling Fry to stay away from his grandfather because if he messes with history it will change the future. So he warns Fry to not do anything that could change history, but to also “don’t not do it” if it is supposed to happen. A very confusing warning, but such is the nature of time travel.

Fry, being the dope that he is, not only talks to Enos when he finds him on the base, but is bound and determined to “save him” from the dangerous conditions that surround him in order to ensure Fry’s existence. Of course, his meddling only makes things more dangerous for Enos. One example (of many) is when Fry tries to save Enos from getting hit by a jeep. He shoves Enos out of the way and into a pile of rusty bayonets. That is when the viewer sees the jeep turn onto a different path; it had no intention of coming anywhere close to Enos. Fry is so paranoid, though, that he only does more harm than good. When his fear of not existing becomes too great, Fry takes Enos to a house in the middle of nowhere (“the safest part of nowhere”) and locks him inside and leaves. As he is driving away, we see that it is actually an atomic bomb testing site, and Enos is blown away. Somehow, though, Fry manages to continue existing.

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68 Without a microwave, it is impossible to get back to the future.
This is where the interconnectedness of *Futurama* begins to show itself once more. When Fry and Bender’s head rejoin the Professor and Leela at the local diner, Mildred, a waitress there who was Enos’ fiancée, receives the news of Enos’ death. Fry goes over to comfort her and ends up walking her home. At her place, they have a drink and Mildred is so overcome by grief and the fact that Fry reminds her so much of Enos that she throws herself at Fry. He is freaked out at first but because he still exists, and therefore, Enos was not really his grandfather, then Mildred cannot be his grandmother. In the morning, the Professor, Leela, and Bender’s head find Fry asleep with Mildred, and they are shocked and disgusted. “What the hell have you done, Fry?” the Professor asks and then proceeds to call him a perverted dope. And suddenly, at least for the viewer and all those who are not Fry, it becomes crystal clear: Fry was able to continue existing after Enos died because it is actually *Fry* who is his own grandfather.69

This now explains why in “The Day the Earth Stood Stupid” the brains were unable to make Fry dumb. His incestuous origin is the reason why he lacks the delta brainwave.70 While this clearly is not something to be envious of, and is actually pretty controversial for a cartoon, it links the other episodes to this one and gives a reasonable explanation for why Fry’s brain is different from everyone else’s. It is indeed gross, but the writers are able to give a sound reason and story

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69 Within this, there are issues of the Grandfather Paradox which was discussed earlier in this paper. But also hints of Russell’s Paradox. According to John T. Baldwin and Olivier Lessmann, Russell’s Paradox is about a barber who shaves all the men in a town who do not shave themselves. The barber is then stuck in a situation where he must and yet cannot shave himself. If he does not shave himself, then he is a part of the men in town who also do not shave themselves, and he then would shave himself. But if he does shave himself, then he would not be a member of the group eligible for a shave by the barber since he would already have shaved himself. He is stuck in limbo between these two options. For Fry, he has to be his grandfather, yet he logically cannot be his own grandfather. Baldwin, John T., and Olivier Lessmann. “What Is Russell’s Paradox?” *Scientific American* (1998): n. pag. *Scientific American* Global RSS. 17 Aug. 1998. Web. 05 Mar. 2015.

70 The writers are able to keep this episode from being more controversial by keeping the majority of the focus away from the incest. There is the subplot of Zoidberg being interrogated by the military, and also Fry truly believes that Mildred is not his grandmother, therefore his ignorance lessens the intensity of his encounter. If he had known beyond a shadow of a doubt that Mildred was his grandmother, it is doubtful he would have slept with her. But the fact remains that had he not, he would have ceased to exist. History had already spoken: Fry was destined to be his own grandfather.
behind Fry and why he is the way he is. Not only does this episode provide an explanation for “The Day the Earth Stood Stupid,” but it will also come back in the next season of Futurama.

Jurassic Bark

For a moment, let us digress to discuss how this second episode of Season 5, “Jurassic Bark,” accomplishes two qualities essential to Futurama: the progression of linear storytelling and emotional plots. For any fan of Futurama, “Jurassic Bark” is up there in the top five saddest episodes of the series, if not the saddest. It is an episode that covers a wide range of themes as well, such as jealousy, love, loss, and sacrifice.

Like a few of the other episodes, this one is structured with three stories progressing at once as opposed to a main plot followed by subplots. The first one deals with Bender and Fry’s relationship; the second is Fry trying to get his dog, Seymour, back; and the third consists of flashbacks to when Fry and Seymour were together in the late 1990s.

The episode opens with the first plot: Bender and Fry are practicing a magic routine when Fry notices that there is an exhibition of a 20th century pizzeria that archeologists found in Old New York, which New New York is built over. Together, he and Bender go to check it out and when they arrive, Fry quickly discovers that it is Panucci’s, the pizzeria where he used to work. They come upon a glass display that holds petrified sausages, the skull and ribcage of the one millionth customer, and a fossilized dog. Through a flashback, we find out that the dog was a malnourished stray who Fry shared a pizza with after realizing his delivery for “Seymour Asses” was another prank delivery. After eating, Fry rides on his bike back to work, and the dog, who
Fry names Seymour, chases after him. Back in the present, Fry uses Bender's footcup to steal the fossilized Seymour and is ejected from the exhibit by guards.

Through the rest of the episode, we get more flashbacks of Fry and Seymour from 1997-1999. Seymour becomes the "mascot" of Panucci's and even has a doggy door built in for him. They sing "Walking on Sunshine" together, and it is the quintessential relationship between man and his best friend. This willingness to do anything for his pup spills over into the future when Fry tries to get Seymour out of the museum and into his possession. Once he successfully obtains his dog, the Professor tells him that he was "fast fossilized" and that there is a "creamy core of dog nougat" still inside that can be tapped into so as to clone Seymour, bringing him back to life. There is only one problem: Bender, whose pride and ego cannot handle not being paid attention to, is getting more and more jealous as Fry becomes consumed with the idea of having Seymour again. The jealousy becomes so intense that when Bender, in magician garb, comes down into the subbasement where the Clone-O-Mat and crew are, and gets furious at Fry for not being there for their show. In a blind rage, he grabs Seymour and tosses him into the lava pit in the basement, hugs Fry fiercely, and says, "Now I'm all you got!"

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71 Fry even goes so far as to do the dance of his people ("The Hustle") for three days straight, even in the rain, in a form of protest and to ask the gods for a favor.
72 It is relevant to point out here that Bender is almost more humanlike than any of the other characters. He is constantly swayed by emotions like jealously, anger, lust, and is narcissistic unlike any other. He also feels extreme euphoria, regret, sorrow, and other emotions on the opposite end of the spectrum from jealousy. For being a mechanical man, his range of emotions is extreme, and this is where Futurama further breaks the conventions of sci-fi. He is by far the most dramatic and emotionally inclined character on the whole show, and it is just very original that they decided to give those characteristics to a robot. In fact, most of the robots are emotionally charged: Calculon is also an extreme narcissist whose ego is larger than life; Robot Devil is often sly and cunning but also has human flaws of character, like anger and pride; Hedonismbot is all about sensation; and Roberto is a criminally insane robot, obsessed with thievery and stabbing. Robots are far from mindless, calculation-focused entities in Futurama.
After seeing how devastated Fry is, and how getting rid of Seymour definitely did anything but repair their friendship, Bender decides to go and save Seymour. Before diving in, Bender states, “I should have understood how someone can love an inferior creature because I love you. Not in the way of the ancient Greeks, but the way a robot loves a human and a human loves a dog—and occasionally, a gorilla loves a kitty.” His love for his best friend overwhelms his sense of pride for once and Bender decides to right his wrong and sacrifice himself in order to make his best friend happy. When Bender dives into the lava, Fry is stricken with grief anew, thinking that he let his best friend kill himself over a dead dog. But then Bender arises with Seymour and the cloning can begin again.

Before revealing just why “Jurassic Bark” is so sad, let us go back and revisit the flashbacks of Fry and Seymour together. Each flashback we get, the bond between them is stronger. On the night of December 31st, 1999, Seymour clearly is upset and does not want Fry to leave Panucci’s to deliver the pizza to the cryogenic lab, as if he were intuiting what would happen to Fry that evening. Despite this, Fry leaves and obviously gets frozen. In the next series of flashbacks, Seymour attempts to lead Fry’s family to him, but Fry’s dad, cautious of Y2K, does not heed Seymour. Therefore, the dog takes off on his own, sniffing Fry out, finally finding him at the cryogenic lab where he barks at Fry in the tube until Fry’s family is called to retrieve Seymour. They are so close to Fry and yet do not look into the tube. Seymour did all he could to save Fry and yet it was the ignorance of the humans that kept Fry locked up in his frozen prison, destined

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73 The Professor gives a commercial like lecture on how Seymour may yet survive despite the lava: “You see, the fossil was made of dolomite—the tough black mineral that won’t cop out when there’s heat all about!” Unlike Fry, who tries to save Seymour and who would have obviously died in the process, Bender, who is “forty percent dolomite” is able to dive into the lava and survive, if only for a little bit.

74 This is an example of the linear storytelling. It again recalls the pilot episode of the show to advance the plot. And just like in the pilot, we see the shadow of Nibbler when Fry flips back into the freezer tube, but this time there is a second shadow along with it. This second shadow is yet another Easter egg that the writers added into this episode, just like they did initially in the pilot.
for the future. These flashbacks are important to not only connect the *Futurama* episodes together, but to establish how much Seymour loved Fry. Fry had saved him from starving on the streets and had loved him, plus he had given him a home. Now it was Seymour’s turn to try and rescue his owner. Try all he could, though, and he was still unable to save his beloved boy.

And that is what takes us to why this episode is so emotionally devastating. As the cloning process is beginning, the Professor discovers that Seymour actually died when he was 15. Fry had him for about three years or so and decided that, since Seymour lived twelve years after Fry had gotten frozen, that Seymour “forgot [him] a long, long time ago.” This statement from Fry is what sets up an agonizing montage that creates sorrowful, dramatic irony. Before he left for his final delivery, Fry told Seymour to wait for him outside of Panucci’s and that he would be right back. This is exactly what Seymour does for the rest of his life, just as Fry told him to do. The seasons change, Panucci’s becomes more rundown, Mr. Panucci grows older, and yet Seymour waits for Fry until he finally lays down and shuts his eyes. During the whole montage, Connie Francis’ “I Will Wait for You” plays mournfully over Seymour’s vigil, further adding to the already incredible amount of emotion this closing scene has. While it is almost brutal to watch, it just displays the talent of the writing staff of the series. Through the buildup of Fry and Seymour’s relationship throughout the episode, it is only all the more heartbreaking that the viewer witnesses Seymour’s years of painful waiting for his master and yet, Fry can remain ignorant. Yes, Fry is saddened by the thought that Seymour must have forgotten all about him, but that does not compare at all to the burden of knowledge placed upon the audience. There is a saying on the internet about *Futurama* that states “Says it’s a comedy, makes you cry like a baby.” But this just provides further evidence for how *Futurama* is so much more than just a
science fiction cartoon. This show has heart and is able to make the viewer feel true emotion. The complexity of this show, from dealing with science to comedy to heartbreak, is what makes *Futurama* stand out in the cartoon genre.

![Figure 10 Seymour: Forever vigil](image)

**The Why of Fry**

Unlike the last episode, "The Why of Fry" is not so achingly sad, though it still does have its somber moments. While this episode does come after "Jurassic Bark," it is more closely linked to "Roswell That Ends Well" and "The Day the Earth Stood Stupid." "Jurassic Bark" utilizes the pilot in a way that is more geared towards building up to the ironic twist at the end rather than focusing on why Fry was sent to the future. Seymour attempts to save him from this fate and luckily for the future, but not so much Fry, he obviously fails. "The Why of Fry" uses the pilot and previously established knowledge of Fry being "special" to further advance the series.

This episode begins with blows to Fry’s self-esteem. While the Professor is usually the one to call out Fry’s lack of genius, this tends to not have an effect on him. After all, the Professor is a
mad, borderline senile scientist whose opinion often does not mean much to Fry. This time, though, his friends are the ones putting him down. When Fry comes out, donning his space suit, he is completely ready to go on the delivery. In contrast to the pilot episode, Fry proudly declares that he is the delivery boy. So when Leela and Bender come back from the delivery they went on without Fry, he is absolutely heartbroken because they deprived him of the opportunity to do his job and to tag along with them.

He slumps in the locker room as Leela and Bender both state that Fry’s presence on the delivery was absolutely unnecessary. Not only that, he is also shot down by Leela when he proposes a date to make up for his absence on the mission. Instead, she is going on a date with Chaz, the mayor’s aid, and unlike Fry, he is a very important man. Bender attempts to cheer Fry up by agreeing to do whatever Fry wants, but when Fry wants to go bowling, Bender decides TV is more worth his time. Fry has now been scorned by both his love interest and his best friend—of course, though, it is about to get even worse for our poor anti-hero.

To try and make himself feel better, Fry goes to a bar for a beer. This backfires when Leela and Chaz happen to stop there as well. Fry foolishly gets his hopes up that Leela’s date is not going well, but she tells him it is and “confidentially, I may not make it back to my apartment tonight!” She then asks Fry to walk Nibbler for her and while out on their walk, Nibbler excretes a dark matter steamer. Since it weighs so much, Fry is unable to pick it up and gets a “failure to scoop” charge by the NNYPD. The humiliation is made all the worse when Chaz and Leela drive by and see Fry’s predicament. Chaz yells that he could get Fry tried as a juvenile in court, impressing Leela with his influence while simultaneously degrading Fry.
In a side alley, Fry’s esteem is further lowered by a trashcan who is offended that Fry thinks the trashcan is as worthless as him. Fry turns to Nibbler, the only one who seems to find him important, even if it is only because Fry cleans up after him. “The poop eradication is but one aspect of your importance,” states Nibbler in his low, noble voice which is in stark contrast to the usual nonsensical and cute mutterings he makes. Before Fry can ask Nibbler too many questions, Nibbler knocks him out and gets his spacecraft out of the shed, which is the same shed and spacecraft that was shown in “The Day the Earth Stood Stupid” when Nibbler saved Leela from the brains chasing her.

When he comes to, Fry is on Nibbler’s home planet, and he is brought by Nibbler to the council that Leela also met. After the Feast of a Thousand Beasts, they talk about the attack on Earth from the brains. This is when Fry realizes that he is the only one who remembers it, and everyone else thinks he is crazy because they cannot recall this incident. His immunity from the brain’s mental attack was from a “genetic abnormality which resulted when [he] went back in time and performed certain actions which made [him his] own grandfather,” states one of the Nibblonian councilmen. “I did do the nasty in the pasty,” Fry almost proudly retorts.

This “past-nastification” is what then makes Fry the last hope for the universe. The brains are plotting to gain all the knowledge in the universe and store it in a giant “Info-Sphere,” a Death Star looking structure that has an enormous brain at the center of it which constitutes the database for the information. Once they secure all the information, the brains will then destroy the universe so that no new knowledge arises, and they can have all the information to themselves. Fry is then the only hope to prevent this destruction since he can sneak into the Info-
Sphere (on a Scooty-Puff Jr.) and use a Quantum Interface Bomb to implode the Info-Sphere into another universe altogether. Because of his special mind, the brains will not be able to notice Fry’s presence as he enters and plants the bomb, as long as he does not think too hard, which will not be a problem for him.

Figure 11 Fry making his way to the Info-Sphere

He is able to make it inside unscathed and undetected. But curiosity gets the better of him and despite the Nibblonians' warnings, Fry wants to find out the answers to all the important questions in life before destroying the massive brain. Fry's meddling produces trace amounts of mental activity, though, alerting all the brains to his presence. They attempt to psionically attack him, but he is obviously immune and the brains realize they are in the presence of the “Fabled One.” Despite his inability to escape the Info-Sphere, for his Scooty-Puff Jr disintegrates on him, Fry presses the bomb’s trigger which starts the sixty second countdown.

When Fry nobly declares that he is happy to help good prevail over evil, one brain questions the Nibblonians' goodness. The brain then pressures him to inquire about the night he got frozen and Nibbler acts suspicious, begging him not to ask. When Fry is pressured again by the brain, he
decides to ask and watches the events of that night play out on a small display on the control panel for the Giant Brain. This is when Fry discovers that Nibbler was there that night, and he lightly blew on Fry’s chair as he was leaning back in it, causing him to completely lose balance and fall into the freezer tube. Fry then finally gains the understanding that it was not an accident that he came to the future, but that he was unknowingly forced to go.

After the bomb goes off, Fry is trapped in the alternate universe with the brains who tell him that it is possible for him to get back to 1999 in order to stop Nibbler from pushing him into the cryogenic tube. The brains then work on getting Fry to that “nexus point between universes.” It is advantageous for them because, without Fry coming to the future, they will be able to learn everything and destroy the universe, so they are eager to help.

Going back into the past opens up a huge dilemma for Fry, which was what Groening wanted. Fry is now in a position to decide his fate, unlike before. He has the power to stop Nibbler and live on in the year 2000, but he could also choose to allow himself to be frozen. Fry ends up under the desk where Nibbler is already hiding and waiting when he is sent to the past. Nibbler reveals to Fry that their sages foretold that he would be the one to help save the universe and since Fry would not be able to live a thousand years into the future, unlike the Nibblonians, Nibbler had no choice but to freeze him so that he could make it there. Fry’s main issue with this is that he feels used and that his life was robbed from him without his permission in order for the Nibblonians to pull off their plan. While he was able to save everyone, he is upset that they did not ask him first. Despite Fry telling Nibbler that he loves the future, it still seems like he does not know how to make up his mind. Then Nibbler reminds Fry that there are things in the future

75 According to the DVD commentary.
worth saving—like Leela. Nibbler vows that if Fry sends himself to the future, he will help him win over Leela, which seals the deal for Fry.

This episode does a couple things for the series. It not only fills in some gaps of the pilot like who ordered the pizza in the first place and the strange shadow seen underneath the desk, but it also opens a discussion on freewill and advances the Fry-Leela love thread of the show. 76 We see Fry torn between two ideas in this episode: the ability to decide his own fate and his love for the future. For an outsider, it is much easier to see that Fry’s life in the future is leagues beyond what he ever could have had or made for himself in the 2000s. While it was his life, as he points out to Nibbler, it was not the best. Of course, if he had never been to the future, he would not have known what he was missing out on, but his future self sent back to the past knows. That is why it is so hard for him to choose, although the audience knows he should choose the future. He wants the ability to choose for himself and that way, he is not just being used, even if it is for the best cause.

His deciding factor is not just because it was his own idea; the fact that Nibbler said he would help Fry win over Leela was also what did it for him. Since the beginning of the show, Fry has been in love with Leela, despite small strays away from this to other (very temporary) love interests. To be with her would make sacrificing the life he knew completely worthwhile. Therefore, we see Fry making a decision both with his mind and his heart. He knows it is best for the fate of the universe and all those he loves in the future if he were to decide to freeze himself, but the incentive of Leela’s love is what truly convinces him to make this decision. This

76 This is the Easter egg that appeared in “Jurassic Bark.” In the pilot, only Nibbler’s shadow is seen under the desk, but in “Jurassic Bark,” a second shadow appears. This turns out to be Fry’s shadow that is then clarified in this episode. The tactic they used in the pilot episode is used in “Jurassic Bark” and the payoff is in “The Why of Fry.”
is what *Futurama* does best: the show uses both mind and heart to make episodes—and the entire series in itself—that shine either scientifically or mathematically, but still manage to pull at the viewers’ hearts at the same time. It is the combination of logic and emotion that makes *Futurama* the perfect blend, and the medium of screenwriting is what seals these two together flawlessly.

When Fry is able to succeed in saving the universe, he returns back to the Planet Express building. Leela is having Bender burn Chaz out of the picture they took together because the date took a horrible turn. Fry appears in the hole, replacing Chaz’s face, making it appear as if he and Leela took the picture together. He hands her a flower that Nibbler gave him for her and she says, “You know what, Fry? I don’t care if you’re not the most important person in the universe. It really makes me happy to see you right now.” To which Fry replies, “Then I am the most important person in the universe.” She kisses him, and he shouts joyfully. The episode wraps up in such a way as to reestablish Fry’s confidence and to show that Nibbler has kept his word to help Fry win over Leela. Fry’s decision to send himself to the future, if it has not already, is really starting to pay off for him now.

**The Last Connection(s)**

One of the last couple instances of connectivity within Fry’s story in *Futurama* has already been discussed via the movie *Bender’s Big Score*. This movie uses the pilot episode as a central hub for the time traveling fiasco that occurs within the story. Not only do multiple Frys show up at the cryogenic lab, but a couple Benders do as well. The nexus point of Fry’s entrance into the cryogenic tube offers not only a place for Fry to return to in order to save himself from Nudar and the other Sprungers, but also makes the whole story make sense since this is where Bender
has to travel from Lars’ funeral to the past to put the tattoo on Fry’s butt. The writers could have made this movie’s plotline just as successful had they used a location other than the cryogenic lab, but it is within Fry’s character to always want to go to the past when things get rough. This is exactly what Bender tells the Sprungers, too, which is how he knows to travel back to this location and time. Like in “The Why of Fry,” Bender’s Big Score exemplifies Fry’s desire to live out his life in the past, and for twelve years, he gets to do just that.77

Finally, we can get to the last episode that follows the story of Fry. It is called “Game of Tones” and is also another emotional episode like “Jurassic Bark.” This episode appeared in the final season (10) of Futurama, four episodes before the finale.78 A strange, booming series of tones is heard emanating from space.79 Fry realizes that there is something familiar about the music. The Professor is able to pinpoint the source of the music as a spacecraft that is probably sending out these tones as a means to communicate, but he is unsure of what the message could be. Fry continues to become more and more agitated by the music, and the Professor takes a special device that is able to watch which part of Fry’s brain is activated by the tones. He isolates it to “a memory Fry formed on December 31st, 1999.”

Here we go again, back to the past. Nibbler pipes up, stating that he was also on Earth that day to make sure that Fry made it to the future, a direct reference to “The Why of Fry” from five seasons ago. Unlike Fry, Nibbler does not think that this music sounds familiar. To extract where

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77 This is before he discovers that he is Lars and that Leela will love him, so he rushes to the cryogenic lab and freezes himself in order to get to the future.

78 Which is potentially the last episode of Futurama forever. So far, while many people have petitioned to have new episodes of Futurama again, there have not been any major networks on television to pick up the show and fund the writing of new episodes. Therefore, this finale truly is the “forever finale” for the time being.

79 In regards to this music, Professor Farnsworth, who’s just fixed his hearing aid, scorns, “Damed kids. In my day, sound didn’t travel through space.” This is hilarious because sound does not travel in a vacuum.
and when on this day Fry heard the music, the Professor tells Amy to “prepare the radio-cranial dream injector” and uses this to open Fry’s unconscious mind, displaying it on a giant screen for the rest of the crew to watch remotely. Fry’s strict mission is to just go through his day and try to locate the source of the music.

Like Fry often does, though, he gets distracted when visiting the past, even if only in his unconscious. He wanders through Old New York and hears a lot of different music and noises, but none are the notes from outer space. He is unable to locate the source of the music and is woken up by an ice cream truck hitting him in the dream. This is when the crew tells him that he has been asleep for thirteen and a half days and that the ship is almost to Earth. They urgently send him back into his unconscious to redouble his search efforts.

This is where we see Fry change his mind about the past. Before he is sent back into his dream, he begs to not have to go back because there was nothing good about his last day in the past. He got frozen and before that, was spending the day with his family, at his horrible job, etc. Depending on the emotional impact the writers want to create, they will often flip-flop Fry’s opinion of the past or the future. If they want his longing for the future to be greater at the end of the episode, they will make him forsake the future in the beginning/middle of the episode, but then come to the realization that the past is not exactly what he remembered it to be or thought it would be like. A touch of this can be seen in “Jurassic Bark” when he forsakes Bender for his old dog, Seymour, then realizes that his dog probably forgot him long ago and that he cannot give up Bender over the slim possibility of his dog remembering him. If the writers want to advance his emotional plot, they will make him hate the past, but then realize that there were good things.

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80 This is a reference to the movie Inception by Christopher Nolan and is only one of many throughout the episode.
about it that he can treasure, even if they are now gone. This latter approach is what the writers do in “Game of Tones.” While some people might think that Fry’s character is inconsistent because of how often he changes his mind, this fluctuation is what makes him more human. By trial and error, he figures out what does and does not have significance for him, and he is just as wishy-washy as the rest of us are. Sure, the writers manipulate it a bit more for the impact of the episode, but it is not completely out of character for him to love the future and hate the past. He just displays human characteristics, which makes him relatable to the audience.

When Fry starts dreaming again, he is in front of his house back in Old New York. At first, he is bitter about being back, but then Seymour runs up to him and gives him a lick on the face. Fry then looks into his house where his parents can be seen through the front window. His opinion softens, and he instead decides to make the most of this second chance at the last day with his family. He lets his brother rough house him; his mom makes him his favorite “Cap’n Crunch casserole;” and, he just enjoys himself, which annoys the Professor since he is not completing his mission. But for Fry, getting to spend time with his family is more important than figuring out how to appease the tones from space.

The most important aspect of this episode is not the source of the tones, but the use of the pilot to pull another tear-jerking episode. Because Fry is able to solve the mystery of where a Nibblonian left his spacecraft on New Year’s Eve, Nibbler says that he will try and repay Fry for doing a “great service” for the Nibblonians. Earlier in the episode, when he was still in his house,

81 The spaceship causing the music is actually a Nibblonian searching for the spacecraft that was left behind on the roof of the cryogenic lab on New Year’s Eve. As Fry falls slowly backwards into the tube, he hears a two note answer to the first half of the music. The sound made originates from the spacecraft locking, akin to a car honking twice once the lock button on an electronic key fob has been pressed.
all the crew put themselves under so as to pull Fry back to his task. Because of this, he was unable to tell his mom everything he wanted to for, after a certain time, Fry never went back in the house and had no memories of what it was like. Therefore, when he tries to open the door and rush back to his family, it is just a white void.

But because Nibbler owes Fry, he decides to give him the chance to talk to and visit his mom one more time by letting him into one of her dreams. Like in “Jurassic Bark,” the episode ends with an emotional song that amplifies the moment when Fry and his mom hug and a single tear rolls down his face. Then, as if that were not enough, Seymour makes an appearance in the dream as well, recalling the fact that he is only going to be able to be with Fry in this last moment.

Through Fry’s dream sequences, he is able to travel back in time without actually having to go back, thus avoiding paradoxes. The writers are able to navigate around this problem through clever writing as well as utilizing the pilot one last time during the series to provide another emotional tale. 82

Act II, Sc. III

But That’s Not All

The interconnectedness of Fry’s story in Futurama is but one way that this show self-references time and again. To cover them all would need a lot more paper, but at least a few can be briefly mentioned, just so the totality of it all is not lost for the reader.

82 This “last use” of the pilot applies only if, as stated earlier, the show is not picked up by any major networks that want new seasons to be produced. If there are more seasons to come and the show finds a new home on a network, then the pilot may be used again in future episodes.
Leela has her own story, for example. In the beginning of the show, she is always referred to as an alien. She is a Cyclops, so she clearly is not human and therefore, it is just easiest to assume that she is from another planet. But her origins are still mysterious: all she knows is that she is an orphan who never knew her parents and, as far as she is concerned, she is the last of her type.\textsuperscript{83} The pursuit of an answer about Leela and who she is/where she is from flows through a couple of episodes, culminating in the episode “Leela’s Homeworld” in Season 4 where both she and the audience find out that she is not an alien, but actually a mutant. There is a mutant society that lives in the sewer system under New New York, and they are forbidden to come to the surface.

In order to try and give their daughter an opportunity for a better life, her parents drop her off at the local Orphanarium so she will not be condemned to the sewers as they are. Once again, the series is able to answer a question in a clever and pretty unexpected way, as well as to invoke an episode full of heart.

That is not the only role the mutants play in the show, though. They have their own story as well. At the start of the show, the mutants are condemned to the sewers, and it is actually illegal for them to come to the surface. Once the mystery of who Leela’s parents are is solved, she wants to be able to spend time with them. So, in the episode “Less than Hero” from Season 5, she is able to get a day pass so they can come and visit her on the surface for one day. While this is nice for them, it still blatantly shows that mutants are only allowed up there temporarily. This humiliation

\textsuperscript{83} In “A Bicyclops Built for Two” from Season 2, Leela meets another Cyclops and he manipulates her in order to get her to marry him. In the nick of time, Fry and Bender discover that he is not actually a Cyclops, but instead a shape-shifter who is marrying four other alien women that day, too. So, although she does not get an answer to the question of where she came from, she was fortunately saved by her friends from a terrible, unhappy fate.
is cut deeper when they are questioned in the museum where they were supposed to meet up with
Leela but she is not there to defend them.\footnote{In 5.6 “Less than Hero,” Fry and Leela find a miracle cream that gives them superhuman powers and thus, with the addition of Bender, they become a super hero trio, “The New Justice Team”. Leela was unable to stick up for her parents because she was in her costume and would have revealed her identity had she spoken to them.}

In Season 7, the mutants finally have had enough. Leela gets banished to the sewers since, even though she considers herself to be an alien and that is what everyone else believes, Fry accidentally slips that she is a mutant while the crew is at a fancy dinner full of high class snobs who are offended by her presence. With the rest of the Planet Express crew, Leela and the mutants protest, demand equal rights, and actually win them. Not only is this the 100th episode of \textit{Futurama}, but it also displays a radical political shift in the \textit{Futurama} universe.

While discussing the \textit{Futurama} universe in its entirety, there is just one last point about \textit{Futurama}’s literary nature and outstanding writing that needs to be discussed. It has already been shown how Ken Keeler created the mathematical Futurama Theorem exclusively for use in the show. That is not the only thing to have been invented for the show: the creators actually made not just one, but \textit{two} alien languages for the show, both of which are aptly called “Aliense (I and II).” The language appears on signs, advertisements, graffiti, buildings, etc. When the pilot came out, viewers decoded the language via a Slurm sign. Slurm is a sort of soda drink, and in one advertisement it says “Drink Slurm” in English and the next time the sign is shown, it is shown in the alien language. The first language was just a simple substitution: each letter gets a certain symbol. That is how the nerdiest of \textit{Futurama}’s viewers were able to figure it out so quickly.
Seeing that the viewers were more than up to the challenge, the creators then decided to make a second language that was much tougher to decode than the first. This one has a more complicated, letter association based-in-math. Each letter has a numerical value. In order to start decoding, the first symbol is translated into a character i.e. A=0, B=1, and so on. The first letter of the word one wants to translate to the second alien language is the basis for finding the symbols for the rest of the word. If one wanted to spell “Bender,” the second symbol would be the first letter. To find the appropriate character for the “e,” one would add 2 + 4 and have to choose the sixth symbol. This addition goes on for the entire word; if two numbers add up to greater than 26, then 26 must be subtracted from that total in order to get the corresponding Aliense II symbol.\textsuperscript{85} It is a laborious and confusing process, but nevertheless, the viewers were able to figure out this new language, even if it did take a little longer to decipher than the first. There is actually a translating website with the official “how to” rules of the second language and after playing around with it for a while, one can sort of get a grasp on it. Still, it goes to show the amount of and attention to detail that the creators put into fully constructing this Futurama universe and by creating a way to interact with the audience.

\textbf{Act III, Sc. I}

\textit{The Future of Futurama}

In order to close this brief discussion of Futurama, Futurama’s past must be discussed before getting into what lies ahead for the series. When it was released in 1999, Matt Groening was taking a risk because of how popular his first series The Simpsons was, which had aired for the first time ten years prior to the release of Futurama. While The Simpsons had gained fame for its satirical commentary on the American family, Futurama was taking satire to a whole new level through the use of sci-fi to comment on the current world via the year 3000. His new show was

going to be darker than *The Simpsons*, and Fox was always wary about this, telling the writers and creators to pull certain aspects back so as not to scare the audience. After only two episodes, Fox told Groening and others that the show was too different and unrelatable. Therefore, the third episode, “I, Roommate,” which is less sci-fi than the previous two episodes, focuses on Bender and Fry trying to find an apartment that suits them both. It was written to ground the series. This dip into reality did not last long, though, and soon the episodes were back to the quirky style that Groening had intended from the beginning.

Although Fox feared what people would think of the show, the nation, as well as critics responded quite well to *Futurama*. During its time on the Fox Network, the series won seven awards, for everything from writing to directing to outstanding animated program. The show was clearly making a name for itself despite the concerns of Fox. Yet, the series was soon to begin losing viewers not because of poor writing or boring episodes, but because of Fox itself. The network “constantly moved the show (and sometimes dropped it from the schedule for long periods)” and never sufficiently advertised for it. Because the lineup was always changing and people never knew when to catch it on the air, the ratings began to slip. After five seasons with Fox, from 1999-2003, *Futurama*’s production contract was not renewed.

Fortunately for fans everywhere, Cartoon Network picked up the series and began playing the reruns the same year Fox canceled the shows. No new episodes were written during *Futurama*’s appearance on Cartoon Network, but with the show actually able to gain viewers, its fan base

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became what it deserved to be. It was during this off-air hiatus that Fox struck up a deal with Groening and Cohen to make four straight-to-DVD movies (Bender's Big Score, The Beast with a Billion Backs, Bender's Game, and Into the Wild Green Yonder) which would be the first new material since 2003. The movies came out in 2007 through 2009 and were split into four episodes each and aired on Comedy Central.  

Three years after the movies were first released to DVD, Comedy Central picked up Futurama in 2010, making the show's seven year hiatus one of the longest for a series. Finally, the show that was a "balancing act of being funny but having an underlying interesting science-fiction story at its heart" was getting another chance to prove itself. Not only this, but Comedy Central "bought rerun rights to Futurama's 72 episodes in 2008," as well as split the movies into sixteen episodes. During its time on Comedy Central, Futurama went on to win more awards such as the Annie award for writing, best animated series, and more. In the light of the fame of The Simpsons, Groening's second series was still able to hold its own, even if it never did quite achieve the popularity of The Simpsons.

This good fortune was not to hold out for long, though. On September 4th, 2013, Futurama aired its final episode of Season 10—which also was the final episode of the series because Comedy Central did not renew the production contract. This was exactly what Fox had done just ten years previously. So far, that makes four finales for the show, and all of them, coincidentally, were

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90 ibid. p. 10b
written by Ken Keeler, the man who created the Futurama Theorem. For the final episode of Season 10, "Meanwhile," Keeler is able to accomplish quite a bit while also leaving the ending upon to future possibilities if the show is to be picked back up.

In the episode, the Professor makes a Time Button that allows the person who pressed it to go back in time ten seconds. Fry then abuses this invention, with the best of intentions, because he wants to use it to make proposing to Leela as magical as possible. When she fails to show up at 6:30, which Fry told her to do if her answer was "yes," he jumps off of the Vampire State Building because a life without Leela is not a life worth living. Ironically, as he is falling, she is walking up to accept and Fry realizes his mistake: each time he pressed the button, he went back in time, but his watch kept going forward. She was actually on time and his watch was ahead.

The problem with the Time Button, though, is that it also takes ten seconds to charge so it can be used again. Fry's fall was longer than ten seconds, so he is stuck in a loop of falling. With the help of Bender, Zoidberg, and Amy, they are able to break Fry out of the fall, but as he lands, he squashes the time button, essentially halting the entire flow of time for the universe—all except

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91 In the commentary, Cohen and others joke about how Keeler should always write the final episode because each time he does, the show gets picked back up. Maybe this will happen again this time around.
for himself and Leela. They decide to get married and go through a checklist of what they have always wanted to do all across the Earth. They finally arrive back at the Vampire State Building where the champagne from the proposal night still sits perfectly preserved. While the rest of the earth has not changed, they have aged and are far into old age. But the twist that Keeler throws in to open up the series again and to give Fry and Leela their lives back is that the Professor, who was strewn across time when he stepped outside the little time shelter he had built, appears and tells them they can go back and do it all again if they wish.

That is the magic of Keeler: he is able to give viewers the satisfaction of finally seeing Fry and Leela married, but that is not the end of the story. Because they can go back in time to the day where Fry stopped the universe, this keeps the show open to so many more episodes. Groening and Cohen are probably busy making new ideas for the future of the show in case it does get picked up or they are able to make a deal for more straight-to-DVD movies. Personally, it is quite frustrating that this show has been thrust into limbo so many times. As a fan of the humor, writing style, and sci-fi parody, not to mention the cast of characters, it is difficult to watch a favorite show go off the air when there are so many televisions shows of such lower quality still being broadcast.

There may be hope yet for the show, though, because on November 9th, 2014, Futurama was featured in a crossover episode with The Simpsons. This episode, dubbed “Simpsonorama,” was a mashup of a “show out of ideas teaming up with a show out of episodes.” In “Simpsonorama,” Bart’s fourth grade class at Springfield Elementary is creating a time capsule to be opened in 1,000 years. When the capsule is placed into its resting spot, the contents inside (specifically a

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92 This is on the opening title of the episode which mocked the Futurama title as opposed to The Simpsons.
rabbit's foot and a sandwich with Bart's snot in it) are mixed in with atomic sludge from Mr. Burns' nuclear power plant. In the future, these items have created a vicious race of rabbits that are terrorizing New New York. Bender is then sent back in time to kill Homer Simpson because the rabbits have his DNA in them. When the rabbits mutate into creatures that look like Bart, it then becomes clear that Bart is the source of the problem. Before he can be exterminated, though, the creatures tear apart the time portal back in the Planet Express building which sucks the Simpsons into the future. From there, it is a matter of ridding the city of the creatures which they do by rounding them up into Madison Cube Garden and fling the whole arena into the depths of space. Fry and Homer are commissioned to repair the portal so that the Simpsons can get back to their own time, and Bender simply has to wait a thousand years in order to get back to the future (like in Bender's Big Score and "Roswell That Ends Well").

This episode tries to accomplish a lot in its short amount of air time: the Planet Express crew goes into the past, the Simpsons go into the future, there are brief cameos from quite a few members of Futurama, and a couple "crises" have to be solved. There is a lot going on which leaves the episode feeling a bit rushed. The crossover would have benefitted from being an hour long, as opposed to just a half hour. Regardless, it was still a decent mashup between Groening's two creations and a chance for Futurama to get back on the air for a brief bit. With any luck, this crossover will help to get Futurama picked back up on a network so it can be a stand-alone show once again.
Act III, Sc. II

Tonight at 11: DOOOOOOOOOOM!

After investigating the thread of science non-fiction, linear storytelling as opposed to just episodic, and show memory, as well as its series of cancelations and renewals, it is difficult to predict what exactly the future holds in store for *Futurama*. While an optimistic outcome about its chances for survival would be nice, there are severe doubts for such an outcome. With an exceptionally talented and educated staff, it is hard to believe that channels are not fighting over the rights for this show. The problem is not the show, though, but the audience.

What is meant by this is that this show is geared towards a very specific audience. This whole show operates like those one percent jokes: people either like the show and get it or do not understand it and do not like it. There really is no in between for *Futurama*. Unfortunately, this does not paint a very decent picture of the television audience. Most times, it is easiest to get viewers with cheap jokes that require little to no effort to write or understand. Because *Futurama* uses so many computer science, literary, and various scientific references, it takes thought and a bit of previous knowledge to get the loftier jokes. While it is easy enough to enjoy the show without the knowledge, those who do not understand often do not appreciate the show for what it is: the satirical, sci-fi parody that comments on our current society. That is what further elevates this show, even above that of *The Simpsons*. While that show is able to really comment and act upon hot social or political issues currently happening (which is partially one of the reasons *The Simpsons* has been able to sustain itself for so long), *Futurama* has to also remember that it is in the future and therefore, certain political issues or environmentally controversial issues have to be reconfigured to fit within the world of New New York and elsewhere in that universe. Plus,
the show is also supposed to focus on science as well, which makes it hard for some people (who do not like science) to get into it. The fact that it also self-references can make it a bit off-putting for those who have not watched it from the beginning. The series is great at succinctly explaining an episode that came before, which is important to the current episode (i.e. in “The Why of Fry”), but it also could leave the viewer feeling a bit disjointed or out of the loop if s/he missed that episode.

That being said, those qualities are integral to **Futurama**. Without the super geeky elements or the linear storytelling, **Futurama** would be just like any other cartoon. 93 Sadly, though, its unconventional style that makes it so unique also makes it hard to understand to some. That could be why the series may be forever doomed to failure, no matter how much it hurts to admit that. Much like Fry falling from the Vampire State Building in “Meanwhile,” **Futurama** is more than likely caught in a loop of cancellations and renewals. But if **Futurama** were changed at all, either to have far cheaper, populous-pleasing jokes or less complicated storylines, the series would have sold out at that point and would more than likely lose its loyal fan base. If it does not change its style at all, it may last on air for a while, but will probably be canceled again after only a few seasons. The show is stuck between a rock and a hard place, between selling out or endless cancelations.

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93 This style of screenwriting actually continues all the way through to the end of the show. In “Meanwhile,” the final episode, Leela, Fry, and Bender return to Luna Park where they went in the second episode of the very first season. Fry says, “Remember this place, Leela?” to which she responds, “Yep. The moon. It’s been here for quite a while.” Fry is quick to say that he meant it was the place they came to on their first delivery and Leela says, “Oh, right. Man, we sure used to try harder back then.” This is not the only time that the show has made fun of itself for digressing away from its delivery company based work, either. There are a couple instances where the series mentions how far it has gone away from the crew doing its work of delivering packages throughout the universe. This self-deprecation is just another endearing facet of the show.
Act III, Sc. III

Meanwhile

In the meantime, all fans can do is sign online petitions requesting the show to be back on the air, enjoy crossover episodes, and binge watch on Netflix or via DVD volumes of the show. Whether *Futurama* is to ever make it onto television again or not is a mystery yet to be solved, but that does not lessen its impact upon the animated series community, as well as introducing viewers to a broad variety of sciences and literary devices. *Futurama* has not only had a lasting impact upon me as a Creative Writing major, but also as a lover of science. It is the beautiful example of how a show can be witty, clever, and craftily written to combine the two things I love most. Although I have seen the episodes more times than I would care to admit, they never get old. It is like stopping by and meeting up with old friends eager to make you laugh, cry, and heed the call of “Good news, everyone!”

Figure 13 From "Anthology of Interest II"
Works Cited


