

“Startull: The Story of an Average Yellow Star”

Teen & Adult version

An Evolutionary Parable by Connie Barlow

The Story of how an average yellow star came to feel good about itself and to appreciate the ways of the Universe.

original 3 June 2006; revised 30 November 2006

www.thegreatstory.org/stardust-parable-adult.pdf

NOTES TO FACILITATOR:

1. ROLES: Following are individual scripts for the **4 roles:** Narrator, Startull, Elder Star, and Big Blue. (Big Blue has the shortest part.)

2. PROPS:

- a. **Bright scarves** of these colors, made from a quarter or more yard of fabric: 2 yellow scarves, 1 red, 1 blue.
- b. **Poster of the famous 1995 Hubble photo of “The Eagle Nebula”**, also known as “The Pillars of Creation,” because the bright area at the top of the left-most pillar is exactly the sort of star-birth region that our sun was once part of, and that the hero of this parable is part of.
- c. **Teaching materials** assembled from: <http://www.thegreatstory.org/stardust-kids.html>

3. ADVANCE INSTRUCTION: This parable is intended as a follow-up to the Lesson of Stardust. Fundamentally, participants should be familiar with the idea that the chemical elements were forged inside of stars — and different elements inside different kinds of stars. In this play they will hear that average yellow stars (including our sun) fuse hydrogen into helium; that red giant stars fuse helium into carbon; and that big blue stars create all the other heavy elements, including precious metals in the moment of a supernova explosion: <http://www.thegreatstory.org/stardust-kids.html>

4. VALUES TEACHING:

- a. Accepting self and others.
- b. Balancing humility and pride.
- c. Trust in the ways of the universe.
- d. Finding your cosmic task.
- e. Understanding that death is inevitable for self and loved ones, and that death plays an important role in the Circle of Life.
- f. Learning that each one of us can contribute to the well-being of all.
- g. The importance of mentors.

Narrator

Begin with only the actor Startull onstage.

Read your part at a normal pace — not slowly or melodramatically.

NARRATOR: Once upon a time, in our very own galaxy, The Milky Way Galaxy, an average yellow star was born, amidst a cluster of bright, blue sibling stars. Let us call this average yellow star, Startull — because any star that is to be the hero of a story deserves to have a proper name.

STARTULL: *[Speak to audience.]* Hello! My name is Startull, and I don't want to be an average yellow star!

NARRATOR: Startull and its sibling stars were all born at the same time. They were jolted into existence by the shock wave from a nearby supernova star that was dying. In this way, one generation of stars gives birth to the next. This, it seems, is the way of the Universe.

STARTULL: I am the same age as my sibling stars, but all of them are big, bright, and the most beautiful color of all: blue!

NARRATOR: Startull, the average yellow star, looked a lot like our own star the Sun would have looked at an early age. We Earthlings know that our Sun is powerful. We know that the Sun is big and that it is bright. But Startull didn't feel powerful. Startull felt small and dim and weak compared to its sibling stars, who all happened to be big, blue, and a thousand times brighter.

STARTULL: Oh, I want to be big! I want to be bright! And most of all, I want to be blue! *[Begin to wander slowly on the stage.]*

NARRATOR: Soon after they were born, the sibling stars began to wander away from their place of birth — and from one another. After 20 million years, they were still close enough to carry on a conversation, but not for much longer. So Startull, the average yellow star, called out to one of its big, blue siblings.

STARTULL: Hey, Big Blue!

BIG BLUE: Hey, Startull! What's up?

STARTULL: Nothing much. How about you?

BIG BLUE: Something strange is happening to me. But I'm not sure what it is. You see, I've been squeezing hydrogen into helium all my life. . .

STARTULL: Me too!

BIG BLUE: Well, I'm not doing much of that anymore.

STARTULL: What? If you're not making helium anymore, how do you stay so bright?

BIG BLUE: I seem to be squeezing helium into lots of other stuff — especially oxygen, and even some silicon and calcium.

STARTULL: Whoa! Do you think that will ever happen to me? You and I are, after all, the same age. I should be changing too!

NARRATOR: Just then, a stranger wandered near the pair of sibling stars.

ELDER YELLOW STAR: Perhaps I might be of some assistance?

STARTULL: Oh! Hi. Who are you?

ELDER YELLOW STAR: I am an elder yellow star. I am close to 5 billion years old.

STARTULL: Oh no! I am only 20 million years old. Does that mean I'm going to stay average and yellow forever — just like you?

ELDER YELLOW STAR: Not quite forever. But long enough.

BIG BLUE: *[speaking angrily to the Elder Star]* Hey! You're upsetting my bro! Why don't you just leave us alone!

ELDER YELLOW STAR: *[speaking to Startull]* Young one: I don't have time to explain. But be prepared for a tumble. I'll see you again after things settle down.

NARRATOR: The Elder Yellow Star swung around and headed back into the galaxy.

BIG BLUE: Uh . . . Startull. I feel kinda strange . . . like I'm getting sick. Maybe you ought to keep your distance.

STARTULL: Okay, Big Blue. I hope you feel better soon. *[Slowly follow Elder Yellow Star.]*

NARRATOR: Startull turned and saw Elder Yellow Star retreating into the distance. Having nothing better to do, Startull began to follow. . . . Then, all of a sudden, there was a terrible explosion. [Big Blue will mimic an explosion.] Startull went tumbling.

STARTULL: *[mimic tumbling in the direction that Elder Yellow Star went.]*

NARRATOR: Startull tumbled so fast and so far that when the young yellow star finally regained consciousness, it was right alongside the Elder Yellow Star.

STARTULL: *[appear to wake up, confused]* Uhhhhh... What happened?

ELDER YELLOW STAR: Such a powerful shock wave and enormously bright light can mean only one thing . . . I am sorry to say: one of your sibling stars has just gone supernova.

STARTULL: Sorry? How can you be sorry! That bright light is awesome! I'd love to be able to do that!

ELDER YELLOW STAR: Perhaps. Supernova is a noble path for a star. Supernovas generously send back into the galaxy all the complex atoms that they have made during their short lives.

STARTULL: What do you mean by "short life"?

ELDER YELLOW STAR: When a star goes supernova, it explodes violently and sends back into the galaxy most of what it has made inside itself — things like oxygen, and silicon, and calcium.

STARTULL: Hey, that's what Big Blue was making . . . Oh. . . *[begin to look very sad]* Big Blue was making oxygen and calcium, but then started to feel sick.

ELDER YELLOW STAR: *[comforting]* Yes. I am sorry to say that your sibling has died, and the others will die too very soon.

STARTULL: *[with sadness, disbelief, and anger]* How can that be? My blue siblings are so much bigger than I ever was! They have so much more hydrogen to use! They can't possibly have burned it all!

ELDER YELLOW STAR: Oh yes they can! Think about it: If your big, blue siblings are a thousand times brighter than you are, then they must be using up their hydrogen fuel a thousand times faster. That is why they are so bright. And so: Their lives are very short.

NARRATOR: Startull grew quiet, and very sad. The Elder Yellow Star tried to offer some comfort.

ELDER YELLOW STAR: Such is the way of the Universe, my Friend. We all die. But, thankfully, we all have the opportunity to create something important before we go, and to leave our gifts for the next generations of stars to use.

STARTULL: *[angrily]* Of what use is calcium?! Of what use is oxygen? And of what use is STUPID helium?!

ELDER YELLOW STAR: Oh, dear! It looks like another one of your siblings is about to go. . . There is no time left to continue our conversation. It seems that this is the way of the Universe. But I shall see you again, my young friend. I promise you that. In the meantime, I suggest you watch for ...

BIG BLUE: *[Wave your blue scarf frantically and pass swiftly between the two yellow stars.]*

NARRATOR: Just then, the shockwave from a second supernova explosion sent Startull and the Elder Yellow Star both tumbling, and in different directions.

STARTULL & ELDER YELLOW STAR *[Pretend to stumble off the stage.]*

STARTULL & ELDER YELLOW STAR *[Stay OFF-STAGE until narrator finishes the next paragraph.]*

NARRATOR: Our sad young star was now alone. ... Many years would pass, and, thankfully, so would the grief. In fact, billions of years would pass before the two yellow stars would meet again. But this time, Startull would not recognize the elder star.

STARTULL & ELDER YELLOW STAR: *[Both return to the stage.]*

ELDER YELLOW STAR: Well, well, my Friend! I see that you have made something of yourself, indeed!

STARTULL: Oh! You startled me! Who are you?

ELDER YELLOW STAR: Of course you do not recognize me, because I am no longer yellow. In my old age, I have turned red. I have become a Red Giant Star.

STARTULL: Oh, it's you! Hey, I'm sorry I was rude to you back when I last saw you 5 billion years ago. I was, after all, very young then. And I so much wanted to be something other than just an average yellow star.

ELDER YELLOW STAR: You have matured very well, my Friend. And I see that you have managed to create in 5 billion years far more than I ever did during my 10 billion years as an average yellow star.

STARTULL: What do you mean?

ELDER YELLOW STAR: Oh! You must not have heard me when the second supernova shock wave hit. I tried to tell you to watch that third planet of yours. I tried to tell you that something exciting might happen there. And indeed it has!

STARTULL: *[Point at something small about an arm's length from your waist.]* You mean this little planet? Ha! It is dimmer and colder than even the weakest of stars! How could anything exciting possibly happen there?! It can't even make helium!

ELDER YELLOW STAR: I suggest that you examine that little planet carefully.

STARTULL: Hmmmmm. I do see that it has turned a lovely shade of blue. You know, I still love the color blue — though I no longer wish to be anything other than yellow!

ELDER YELLOW STAR: Look closer ...

STARTULL: Oh! . . . I see lots of little things moving around on the brown and green stuff, and a lot of other things swimming in the big blue pools.

ELDER YELLOW STAR: Ah, my Friend, such is the way of the Universe! It seems that the starlight you have been sending out while you have been making helium has been steady enough for Life to evolve on that planet of yours. Well done!

STARTULL: *[Jump up and down joyfully.]* I created Life! I created Life! . . . I now see that being average, dim, and yellow is, after all, better than being big, bright, and blue!

ELDER YELLOW STAR: Not so fast, Friend. A little humility is in order here. Look closer. What is the atom that the bones inside of those moving things are made of?

STARTULL: Calcium.

ELDER YELLOW STAR: Yes: calcium. And what is the atom at the very center of the light-eating molecule that makes the green things green?

STARTULL: Magnesium.

ELDER YELLOW STAR: And where did those calcium and magnesium atoms come from?

STARTULL: Ah! I understand! I understand! Calcium and magnesium are made inside of big blue stars! We *all* are important! . . . But what about you? Are you doing anything important now that you have turned red?

ELDER YELLOW STAR: Yes. Look again: What atom is inside every cell of every living creature on that planet of yours?

STARTULL: Carbon.

ELDER YELLOW STAR: Indeed! Carbon is precisely what I am now creating in my core from all the helium I made in my lifetime.

STARTULL: That is a wonderful gift! Will I ever make carbon?

ELDER YELLOW STAR: Yes. But that won't happen for a very long time. During the next five billion years, you will remain an average yellow star — but a star who just so happens to have a planet full of life to take care of!

STARTULL: That is a big responsibility. I will do a good job!

ELDER YELLOW STAR: I believe you will!. . . Now, my Friend, I must go.

STARTULL: Why?

ELDER YELLOW STAR: It will soon be time for me to recycle back into the galaxy the gift of carbon that I have created. And maybe, just maybe, an average yellow star that is yet to be born will have planets, and perhaps one of those planets will put to use the carbon atoms that I created. Perhaps that planet will evolve Life!

STARTULL: But will you have to die for that to happen?

ELDER YELLOW STAR: Yes. But my way of dying will be much gentler than that of a supernova explosion. Even so, much of what I have created will go back into the galaxy.

STARTULL: [*hesitantly*] Are you afraid to die?

ELDER YELLOW STAR: I used to be afraid. But now that I am old, I am very satisfied with the star life I have already lived. As a Red Giant, what matters to me most is that this whole amazing process continues. I want new stars to continue to be born. I want life to continue to evolve. I am sure you will feel the same way in another 5 billion years.

STARTULL: You mean, I am going to die too?

ELDER YELLOW STAR: Such is the way of the Universe. Everything dies, eventually. And that is what makes possible this whole grand Circle of Life. Without death, there could be no more birth.

STARTULL: *[sadly]* Oh ...

ELDER YELLOW STAR: *[brightly]* But you will not die for a very, very long time, my Friend. So, carry on! Carry on as a magnificently average yellow star! And continue with your cosmic task of helping one of your planets evolve life! . . . Goodbye!

STARTULL: *[Watch your Friend leave the stage. Wave goodbye, silently.]*

NARRATOR: The Red Giant Star, who was once just an average yellow star, now turned away, and began to wander gracefully into the abyss. Startull watched its friend grow dimmer and dimmer until there was nothing left to see. Perhaps the star had simply ventured out of sight. Or perhaps the Red Giant had shed its red cloak of hydrogen and helium and carbon and was cooling into a very dim white dwarf.

Millions of years would pass. Startull continued to make more helium and was very busy watching how life evolved on its little planet. Startull often remembered with affection the Elder Yellow Star. And Startull remembered, too, its big, bright, blue siblings — all of whom had long ago died in glorious supernova explosions. . . . One day, while wandering through the galaxy, Startull saw a very young and very average yellow star in the distance. You know what happens next: Startull began to move toward the young yellow star.

STARTULL: *[Look at audience cheerily and wave.]* Hey! Hello there, Young One!

NARRATOR: Such is the way of the Universe! . . . The End! *[bow for applause]*

Startull

[wear YELLOW scarf] NOTE to Startull: [You will be on stage the entire play.]

Read your part at a normal pace — not slowly or melodramatically.

NARRATOR: Once upon a time, in our very own galaxy, The Milky Way Galaxy, an average yellow star was born, amidst a cluster of bright, blue sibling stars. Let us call this average yellow star, Startull — because any star that is to be the hero of a story deserves to have a proper name.

STARTULL: *[Speak to audience.] Hello! My name is Startull, and I don't want to be an average yellow star!*

NARRATOR: Startull and its sibling stars were all born at the same time. They were jolted into existence by the shock wave from a nearby supernova star that was dying. In this way, one generation of stars gives birth to the next. This, it seems, is the way of the Universe.

STARTULL: **I am the same age as my sibling stars, but all of them are big, bright, and the most beautiful color of all: blue!**

NARRATOR: Startull, the average yellow star, looked a lot like our own star the Sun would have looked at an early age. We Earthlings know that our Sun is powerful. We know that the Sun is big and that it is bright. But Startull didn't feel powerful. Startull felt small and dim and weak compared to its sibling stars, who all happened to be big, blue, and a thousand times brighter.

STARTULL: **Oh, I want to be big! I want to be bright! And most of all, I want to be blue!** *[Begin to wander slowly on the stage.]*

NARRATOR: Soon after they were born, the sibling stars began to wander away from their place of birth — and from one another. After 20 million years, they were still close enough to carry on a conversation, but not for much longer. So Startull, the average yellow star, called out to one of its big, blue siblings.

STARTULL: **Hey, Big Blue!**

BIG BLUE: Hey, Startull! What's up?

STARTULL: **Nothing much. How about you?**

BIG BLUE: Something strange is happening to me. But I'm not sure what it is. You see, I've been squeezing hydrogen into helium all my life. . .

STARTULL: Me too!

BIG BLUE: Well, I'm not doing much of that anymore.

STARTULL: What? If you're not making helium anymore, how do you stay so bright?

BIG BLUE: I seem to be squeezing helium into lots of other stuff — especially oxygen, and even some silicon and calcium.

STARTULL: Whoa! Do you think that will ever happen to me? You and I are, after all, the same age. I should be changing too!

NARRATOR: Just then, a stranger wandered near the pair of sibling stars.

ELDER YELLOW STAR: Perhaps I might be of some assistance?

STARTULL: Oh! Hi. Who are you?

ELDER YELLOW STAR: I am an elder yellow star. I am close to 5 billion years old.

STARTULL: Oh no! I am only 20 million years old. Does that mean I'm going to stay average and yellow forever — just like you?

ELDER YELLOW STAR: Not quite forever. But long enough.

BIG BLUE: *[speaking angrily to the Elder Star]* Hey! You're upsetting my bro! Why don't you just leave us alone!

ELDER YELLOW STAR: *[speaking to Startull]* Young one: I don't have time to explain. But be prepared for a tumble. I'll see you again after things settle down.

NARRATOR: The Elder Yellow Star swung around and headed back into the galaxy.

BIG BLUE: Uh . . . Startull. I feel kinda strange . . . like I'm getting sick. Maybe you ought to keep your distance.

STARTULL: Okay, Big Blue. I hope you feel better soon. *[Slowly follow Elder Yellow Star.]*

NARRATOR: Startull turned and saw Elder Yellow Star retreating into the distance. Having nothing better to do, Startull began to follow. . . . Then, all of a sudden, there was a terrible explosion. *[Big Blue will mimic an explosion.]* Startull went tumbling.

STARTULL: *[mimic tumbling in the direction that Elder Yellow Star went.]*

NARRATOR: Startull tumbled so fast and so far that when the young yellow star finally regained consciousness, it was right alongside the Elder Yellow Star.

STARTULL: *[appear to wake up, confused]* **Uhhhhh.... What happened?**

ELDER YELLOW STAR: Such a powerful shock wave and enormously bright light can mean only one thing . . . I am sorry to say: one of your sibling stars has just gone supernova.

STARTULL: Sorry? How can you be sorry! That bright light is awesome! I'd love to be able to do that!

ELDER YELLOW STAR: Perhaps. Supernova is a noble path for a star. Supernovas generously send back into the galaxy all the complex atoms that they have made during their short lives.

STARTULL: What do you mean by "short life"?

ELDER YELLOW STAR: When a star goes supernova, it explodes violently and sends back into the galaxy most of what it has made inside itself — things like oxygen, and silicon, and calcium.

STARTULL: Hey, that's what Big Blue was making . . . Oh. . . *[begin to look very sad]* **Big Blue was making oxygen and calcium, but then started to feel sick.**

ELDER YELLOW STAR: *[comforting]* Yes. I am sorry to say that your sibling has died, and the others will die too very soon.

STARTULL: *[with sadness, disbelief, and anger]* **How can that be? My blue siblings are so much bigger than I ever was! They have so much more hydrogen to use! They can't possibly have burned it all!**

ELDER YELLOW STAR: Oh yes they can! Think about it: If your big, blue siblings are a thousand times brighter than you are, then they must be using up their hydrogen fuel a thousand times faster. That is why they are so bright. And so: Their lives are very short.

NARRATOR: Startull grew quiet, and very sad. The Elder Yellow Star tried to offer some comfort.

ELDER YELLOW STAR: Such is the way of the Universe, my Friend. We all die. But, thankfully, we all have the opportunity to create something important before we go, and to leave our gifts for the next generations of stars to use.

STARTULL: *[angrily]* **Of what use is calcium?! Of what use is oxygen?
And of what use is STUPID helium?!**

ELDER YELLOW STAR: Oh, dear! It looks like another one of your siblings is about to go. . . There is no time left to continue our conversation. It seems that this is the way of the Universe. But I shall see you again, my young friend. I promise you that. In the meantime, I suggest you watch for ...

BIG BLUE: *[Wave your blue scarf frantically and pass swiftly between the two yellow stars.]*

NARRATOR: Just then, the shockwave from a second supernova explosion sent Startull and the Elder Yellow Star both tumbling, and in different directions.

STARTULL & ELDER YELLOW STAR *[Pretend to stumble off the stage.]*

STARTULL & ELDER YELLOW STAR *[Stay OFF-STAGE until narrator finishes the next paragraph.]*

NARRATOR: Our sad young star was now alone. ... Many years would pass, and, thankfully, so would the grief. In fact, billions of years would pass before the two yellow stars would meet again. But this time, Startull would not recognize the elder star.

STARTULL & ELDER YELLOW STAR: *[Both return to the stage.]*

ELDER YELLOW STAR: Well, well, my Friend! I see that you have made something of yourself, indeed!

STARTULL: Oh! You startled me! Who are you?

ELDER YELLOW STAR: Of course you do not recognize me, because I am no longer yellow. In my old age, I have turned red. I have become a Red Giant Star.

STARTULL: Oh, it's you! Hey, I'm sorry I was rude to you back when I last saw you 5 billion years ago. I was, after all, very young then. And I so much wanted to be something other than just an average yellow star.

ELDER YELLOW STAR: You have matured very well, my Friend. And I see that you have managed to create in 5 billion years far more than I ever did during my 10 billion years as an average yellow star.

STARTULL: What do you mean?

ELDER YELLOW STAR: Oh! You must not have heard me when the second supernova shock wave hit. I tried to tell you to watch that third planet of

yours. I tried to tell you that something exciting might happen there. And indeed it has!

STARTULL: *[Point at something small about an arm's length from your waist.]*
You mean this little planet? Ha! It is dimmer and colder than even the weakest of stars! How could anything exciting possibly happen there?! It can't even make helium!

ELDER YELLOW STAR: I suggest that you examine that little planet carefully.

STARTULL: **Hmmmm. I do see that it has turned a lovely shade of blue. You know, I still love the color blue — though I no longer wish to be anything other than yellow!**

ELDER YELLOW STAR: Look closer ...

STARTULL: **Oh! . . . I see lots of little things moving around on the brown and green stuff, and a lot of other things swimming in the big blue pools.**

ELDER YELLOW STAR: Ah, my Friend, such is the way of the Universe! It seems that the starlight you have been sending out while you have been making helium has been steady enough for Life to evolve on that planet of yours. Well done!

STARTULL: *[Jump up and down joyfully.]* **I created Life! I created Life! . . . I now see that being average, dim, and yellow is, after all, better than being big, bright, and blue!**

ELDER YELLOW STAR: Not so fast, Friend. A little humility is in order here. Look closer. What is the atom that the bones inside of those moving things are made of?

STARTULL: **Calcium.**

ELDER YELLOW STAR: Yes: calcium. And what is the atom at the very center of the light-eating molecule that makes the green things green?

STARTULL: **Magnesium.**

ELDER YELLOW STAR: And where did those calcium and magnesium atoms come from?

STARTULL: **Ah! I understand! I understand! Calcium and magnesium are made inside of big blue stars! We *all* are important! . . . But what about you? Are you doing anything important now that you have turned red?**

ELDER YELLOW STAR: Yes. Look again: What atom is inside every cell of every living creature on that planet of yours?

STARTULL: Carbon.

ELDER YELLOW STAR: Indeed! Carbon is precisely what I am now creating in my core from all the helium I made in my lifetime.

STARTULL: That is a wonderful gift! Will I ever make carbon?

ELDER YELLOW STAR: Yes. But that won't happen for a very long time. During the next five billion years, you will remain an average yellow star — but a star who just so happens to have a planet full of life to take care of!

STARTULL: That is a big responsibility. I will do a good job!

ELDER YELLOW STAR: I believe you will!. . . Now, my Friend, I must go.

STARTULL: Why?

ELDER YELLOW STAR: It will soon be time for me to recycle back into the galaxy the gift of carbon that I have created. And maybe, just maybe, an average yellow star that is yet to be born will have planets, and perhaps one of those planets will put to use the carbon atoms that I created. Perhaps that planet will evolve Life!

STARTULL: But will you have to die for that to happen?

ELDER YELLOW STAR: Yes. But my way of dying will be much gentler than that of a supernova explosion. Even so, much of what I have created will go back into the galaxy.

STARTULL: [hesitantly] Are you afraid to die?

ELDER YELLOW STAR: I used to be afraid. But now that I am old, I am very satisfied with the star life I have already lived. As a Red Giant, what matters to me most is that this whole amazing process continues. I want new stars to continue to be born. I want life to continue to evolve. I am sure you will feel the same way in another 5 billion years.

STARTULL: You mean, I am going to die too?

ELDER YELLOW STAR: Such is the way of the Universe. Everything dies, eventually. And that is what makes possible this whole grand Circle of Life. Without death, there could be no more birth.

STARTULL: [sadly] Oh ...

ELDER YELLOW STAR: *[brightly]* But you will not die for a very, very long time, my Friend. So, carry on! Carry on as a magnificently average yellow star! And continue with your cosmic task of helping one of your planets evolve life! . . . Goodbye!

STARTULL: *[Watch your Friend leave the stage. Wave goodbye, silently.]*

NARRATOR: The Red Giant Star, who was once just an average yellow star, now turned away, and began to wander gracefully into the abyss. Startull watched its friend grow dimmer and dimmer until there was nothing left to see. Perhaps the star had simply ventured out of sight. Or perhaps the Red Giant had shed its red cloak of hydrogen and helium and carbon and was cooling into a very dim white dwarf. Millions of years would pass. Startull continued to make more helium and was very busy watching how life evolved on its little planet. Startull often remembered with affection the Elder Yellow Star. And Startull remembered, too, its big, bright, blue siblings — all of whom had long ago died in glorious supernova explosions. . . . One day, while wandering through the galaxy, Startull saw a very young and very average yellow star in the distance. You know what happens next: Startle began to move toward the young yellow star.

STARTULL: *[Look at audience cheerily and wave.]* **Hey! Hello there, Young One!**

NARRATOR: Such is the way of the Universe! . . . The End!

STARTULL: *[bow for applause]*

Elder Yellow Star

[Begin by wearing the YELLOW scarf. Later you will switch to RED, so put the red scarf at the edge of the stage right now.]

NOTE to ELDER YELLOW STAR: *[Act wise and gentle, like an elder. Begin the play off-stage. Enter where you see the first **bold type** in this script, on the second page.]*

Read your part at a normal pace — not slowly or melodramatically.

NARRATOR: Once upon a time, in our very own galaxy, The Milky Way Galaxy, an average yellow star was born, amidst a cluster of bright, blue sibling stars. Let us call this average yellow star, Startull — because any star that is to be the hero of a story deserves to have a proper name.

STARTULL: *[Speak to audience.]* Hello! My name is Startull, and I don't want to be an average yellow star!

NARRATOR: Startull and its sibling stars were all born at the same time. They were jolted into existence by the shock wave from a nearby supernova star that was dying. In this way, one generation of stars gives birth to the next. This, it seems, is the way of the Universe.

STARTULL: I am the same age as my sibling stars, but all of them are big, bright, and the most beautiful color of all: blue!

NARRATOR: Startull, the average yellow star, looked a lot like our own star the Sun would have looked at an early age. We Earthlings know that our Sun is powerful. We know that the Sun is big and that it is bright. But Startull didn't feel powerful. Startull felt small and dim and weak compared to its sibling stars, who all happened to be big, blue, and a thousand times brighter.

STARTULL: Oh, I want to big! I want to be bright! And most of all, I want to be blue! *[Begin to wander slowly on the stage.]*

NARRATOR: Soon after they were born, the sibling stars began to wander away from their place of birth — and from one another. After 20 million years, they were still close enough to carry on a conversation, but not for much longer. So Startull, the average yellow star, called out to one of its big, blue siblings.

STARTULL: Hey, Big Blue!

BIG BLUE: Hey, Startull! What's up?

STARTULL: Nothing much. How about you?

BIG BLUE: Something strange is happening to me. But I'm not sure what it is. You see, I've been squeezing hydrogen into helium all my life. . .

STARTULL: Me too!

BIG BLUE: Well, I'm not doing much of that anymore.

STARTULL: What? If you're not making helium anymore, how do you stay so bright?

BIG BLUE: I seem to be squeezing helium into lots of other stuff — especially oxygen, and even some silicon and calcium.

STARTULL: Whoa! Do you think that will ever happen to me? You and I are, after all, the same age. I should be changing too!

NARRATOR: Just then, a stranger wandered near the pair of sibling stars.

ELDER YELLOW STAR: *[enter stage]*

ELDER YELLOW STAR: Perhaps I might be of some assistance?

STARTULL: Oh! Hi. Who are you?

ELDER YELLOW STAR: I am an elder yellow star. I am close to 5 billion years old.

STARTULL: Oh no! I am only 20 million years old. Does that mean I'm going to stay average and yellow forever — just like you?

ELDER YELLOW STAR: Not quite forever — but long enough.

BIG BLUE: *[speaking angrily to the Elder Star]* Hey! You're upsetting my bro! Why don't you just leave us alone!

ELDER YELLOW STAR: *[speak to Startull]* **Young One: I don't have time to explain. But be prepared for a tumble. I'll see you again after things settle down.** *[wander off the stage and stay there till your next part.]*

NARRATOR: The Elder Yellow Star swung around and headed back into the galaxy.

BIG BLUE: Uh . . . Startull. I feel kinda strange . . . like I'm getting sick. Maybe you ought to keep your distance.

STARTULL: Okay, Big Blue. I hope you feel better soon. *[Slowly follow Elder Yellow Star.]*

NARRATOR: Startull turned and saw Elder Yellow Star retreating into the distance. Having nothing better to do, Startull began to follow. . . . Then, all of a sudden, there was a terrible explosion. *[Big Blue will mimic an explosion.]* Startull went tumbling.

STARTULL: *[mimic tumbling in the direction that Elder Yellow Star went.]*

NARRATOR: Startull tumbled so fast and so far that when the young yellow star finally regained consciousness, it was right alongside the Elder Yellow Star.

ELDER YELLOW STAR: *[return to stage next to Startull.]*

STARTULL: *[appear to wake up, confused]* Uhhhhhh... What happened?

ELDER YELLOW STAR: **Such a powerful shock wave and enormously bright light can mean only one thing . . . I am sorry to say: one of your sibling stars has just gone supernova.**

STARTULL: Sorry? How can you be sorry! That bright light is awesome! I'd love to be able to do that!

ELDER YELLOW STAR: **Perhaps. Supernova is a noble path for a star. Supernovas generously send back into the galaxy all the complex atoms that they have made during their short lives.**

STARTULL: What do you mean by "short life"?

ELDER YELLOW STAR: **When a star goes supernova, it explodes violently and sends back into the galaxy most of what it has made inside itself – things like oxygen, and silicon, and calcium.**

STARTULL: Hey, that's what Big Blue was making . . . Oh. . . *[begin to look very sad]* Big Blue was making oxygen and calcium, but then started to feel sick.

ELDER YELLOW STAR: *[comforting]* **Yes. I am sorry to say that your sibling has died, and the others will die too very soon.**

STARTULL: *[with sadness, disbelief, and anger]* How can that be? My blue siblings are so much bigger than I ever was! They have so much more hydrogen to use! They can't possibly have burned it all!

ELDER YELLOW STAR: **Oh yes they can! Think about it: If your big, blue siblings are a thousand times brighter than you are, then they must be using up their hydrogen fuel a thousand times faster. That is why they are so bright. And so: Their lives are very short.**

NARRATOR: Startull grew quiet, and very sad. The Elder Yellow Star tried to offer some comfort.

ELDER YELLOW STAR: Such is the way of the Universe, my Friend. We all die. But, thankfully, we all have the opportunity to create something important before we go, and to leave our gifts for the next generations of stars to use.

STARTULL: *[angrily]* Of what use is calcium?! Of what use is oxygen? And of what use is STUPID helium?!

ELDER YELLOW STAR: Oh, dear! It looks like another one of your siblings is about to go. . . There is no time left to continue our conversation. It seems that this is the way of the Universe. But I shall see you again, my young friend. I promise you that. In the meantime, I suggest you watch for ...

BIG BLUE: *[Wave your blue scarf frantically and pass swiftly between the two yellow stars.]*

NARRATOR: Just then, the shockwave from a second supernova explosion sent Startull and the Elder Yellow Star both tumbling, and in different directions.

STARTULL & **ELDER YELLOW STAR** *[Pretend to stumble off the stage.]*

ELDER YELLOW STAR *[Stay OFF-STAGE until narrator finishes the next paragraph. Switch to your **RED SCARF**]*

NARRATOR: Our sad young star was now alone. ... Many years would pass, and, thankfully, so would the grief. In fact, billions of years would pass before the two yellow stars would meet again. But this time, Startull would not recognize the elder star.

STARTULL & **ELDER YELLOW STAR**: *[Both return to the stage.]*

ELDER YELLOW STAR: Well, well, my Friend! I see that you have made something of yourself, indeed!

STARTULL: Oh! You startled me! Who are you?

ELDER YELLOW STAR: Of course you do not recognize me, because I am no longer yellow. In my old age, I have turned red. I have become a Red Giant Star.

STARTULL: Oh, it's you! Hey, I'm sorry I was rude to you back when I last saw you 5 billion years ago. I was, after all, very young then. And I so much wanted to be something other than just an average yellow star.

ELDER YELLOW STAR: You have matured very well, my Friend. And I see that you have managed to create in 5 billion years far more than I ever did during my 10 billion years as an average yellow star.

STARTULL: What do you mean?

ELDER YELLOW STAR: Oh! You must not have heard me when the second supernova shock wave hit. I tried to tell you to watch that third planet of yours. I tried to tell you that something exciting might happen there. And indeed it has!

STARTULL: *[Point at something small about an arm's length from your waist.]* You mean this little planet? Ha! It is dimmer and colder than even the weakest of stars! How could anything exciting possibly happen there?! It can't even make helium!

ELDER YELLOW STAR: I suggest that you examine that little planet carefully.

STARTULL: Hmmmmm. I do see that it has turned a lovely shade of blue. You know, I still love the color blue — though I no longer wish to be anything other than yellow!

ELDER YELLOW STAR: Look closer ...

STARTULL: Oh! . . . I see lots of little things moving around on the brown and green stuff, and a lot of other things swimming in the big blue pools.

ELDER YELLOW STAR: Ah, my Friend, such is the way of the Universe! It seems that the starlight you have been sending out while you have been making helium has been steady enough for Life to evolve on that planet of yours. Well done!

STARTULL: *[Jump up and down joyfully.]* I created Life! I created Life! . . . I now see that being average, dim, and yellow is, after all, better than being big, bright, and blue!

ELDER YELLOW STAR: Not so fast, Friend. A little humility is in order here. Look closer. What is the atom that the bones inside of those moving things are made of?

STARTULL: Calcium.

ELDER YELLOW STAR: Yes: calcium. And what is the atom at the very center of the light-eating molecule that makes the green things green?

STARTULL: Magnesium.

ELDER YELLOW STAR: And where did those calcium and magnesium atoms come from?

STARTULL: Ah! I understand! I understand! Calcium and magnesium are made inside of big blue stars! We *all* are important! . . . But what about you? Are you doing anything important now that you have turned red?

ELDER YELLOW STAR: Yes. Look again: What atom is inside every cell of every living creature on that planet of yours?

STARTULL: Carbon.

ELDER YELLOW STAR: Indeed! Carbon is precisely what I am now creating in my core from all the helium I made in my lifetime.

STARTULL: That is a wonderful gift! Will I ever make carbon?

ELDER YELLOW STAR: Yes. But that won't happen for a very long time. During the next five billion years, you will remain an average yellow star — but a star who just so happens to have a planet full of life to take care of!

STARTULL: That is a big responsibility. I will do a good job!

ELDER YELLOW STAR: I believe you will!. Now, my Friend, I must go.

STARTULL: Why?

ELDER YELLOW STAR: It will soon be time for me to recycle back into the galaxy the gift of carbon that I have created. And maybe, just maybe, an average yellow star that is yet to be born will have planets, and perhaps one of those planets will put to use the carbon atoms that I created. Perhaps that planet will evolve Life!

STARTULL: But will you have to die for that to happen?

ELDER YELLOW STAR: Yes. But my way of dying will be much gentler than that of a supernova explosion. Even so, much of what I have created will go back into the galaxy.

STARTULL: *[hesitantly]* Are you afraid to die?

ELDER YELLOW STAR: I used to be afraid. But now that I am old, I am very satisfied with the star life I have already lived. As a Red Giant, what matters to me most is that this whole amazing process continues. I want new stars to continue to be born. I want life to continue to evolve. I am sure you will feel the same way in another 5 billion years.

STARTULL: You mean, I am going to die too?

ELDER YELLOW STAR: Such is the way of the Universe. Everything dies, eventually. And that is what makes possible this whole grand Circle of Life. Without death, there could be no more birth.

STARTULL: *[sadly]* Oh ...

ELDER YELLOW STAR: *[brightly]* But you will not die for a very, very long time, my Friend. So, carry on! Carry on as a magnificently average yellow star! And continue with your cosmic task of helping one of your planets evolve life! . . . Goodbye!

ELDER YELLOW STAR: *[leave the stage; bow at end of play.]*

STARTULL: *[Watch your Friend leave the stage. Wave goodbye, silently.]*

NARRATOR: The Red Giant Star, who was once just an average yellow star, now turned away, and began to wander gracefully into the abyss. Startull watched its friend grow dimmer and dimmer until there was nothing left to see. Perhaps the star had simply ventured out of sight. Or perhaps the Red Giant had shed its red cloak of hydrogen and helium and carbon and was cooling into a very dim white dwarf. Millions of years would pass. Startull continued to make more helium and was very busy watching how life evolved on its little planet. Startull often remembered with affection the Elder Yellow Star. And Startull remembered, too, its big, bright, blue siblings — all of whom had long ago died in glorious supernova explosions. . . . One day, while wandering through the galaxy, Startull saw a very young and very average yellow star in the distance. You know what happens next: Startle began to move toward the young yellow star.

STARTULL: *[Look at audience cheerily and wave.]* Hey! Hello there, Young One!

NARRATOR: Such is the way of the Universe! . . . The End!

ELDER YELLOW STAR: *[Return to stage and bow for applause]*

Big Blue

[wear BLUE scarf] *You begin the play offstage, but you enter rather soon. Halfway through the play, your part is over. So you will go and sit down.*

Read your part at a normal pace — not slowly or melodramatically.

NARRATOR: Once upon a time, in our very own galaxy, The Milky Way Galaxy, an average yellow star was born, amidst a cluster of bright, blue sibling stars. Let us call this average yellow star, Startull — because any star that is to be the hero of a story deserves to have a proper name.

STARTULL: *[Speak to audience.]* Hello! My name is Startull, and I don't want to be an average yellow star!

NARRATOR: Startull and its sibling stars were all born at the same time. They were jolted into existence by the shock wave from a nearby supernova star that was dying. In this way, one generation of stars gives birth to the next. This, it seems, is the way of the Universe.

STARTULL: I am the same age as my sibling stars, but all of them are big, bright, and the most beautiful color of all: blue!

NARRATOR: Startull, the average yellow star, looked a lot like our own star the Sun would have looked at an early age. We Earthlings know that our Sun is powerful. We know that the Sun is big and that it is bright. But Startull didn't feel powerful. Startull felt small and dim and weak compared to its sibling stars, who all happened to be big, blue, and a thousand times brighter.

STARTULL: Oh, I want to be big! I want to be bright! And most of all, I want to be blue! *[Begin to wander slowly on the stage.]*

NARRATOR: Soon after they were born, the sibling stars began to wander away from their place of birth — and from one another. After 20 million years, they were still close enough to carry on a conversation, but not for much longer. So Startull, the average yellow star, called out to one of its big, blue siblings.

STARTULL: Hey, Big Blue!

BIG BLUE: *[enter stage]* **Hey, Startull! What's up?**

STARTULL: Nothing much. How about you?

BIG BLUE: **Something strange is happening to me. But I'm not sure what it is. You see, I've been squeezing hydrogen into helium all my life. . .**

STARTULL: Me too!

BIG BLUE: Well, I'm not doing much of that anymore.

STARTULL: What? If you're not making helium anymore, how do you stay so bright?

BIG BLUE: I seem to be squeezing helium into lots of other stuff — especially oxygen, and even some silicon and calcium.

STARTULL: Whoa! Do you think that will ever happen to me? You and I are, after all, the same age. I should be changing too!

NARRATOR: Just then, a stranger wandered near the pair of sibling stars.

ELDER YELLOW STAR: Perhaps I might be of some assistance?

STARTULL: Oh! Hi. Who are you?

ELDER YELLOW STAR: I am an elder yellow star. I am close to 5 billion years old.

STARTULL: Oh no! I am only 20 million years old. Does that mean I'm going to stay average and yellow forever — just like you?

ELDER YELLOW STAR: Not quite forever. But long enough.

BIG BLUE: *[speaking angrily to the Elder Star]* Hey! You're upsetting my bro! Why don't you just leave us alone!

ELDER YELLOW STAR: *[speaking to Startull]* Young one: I don't have time to explain. But be prepared for a tumble. I'll see you again after things settle down.

NARRATOR: The Elder Yellow Star swung around and headed back into the galaxy.

BIG BLUE: Uh . . . Startull. I feel kinda strange . . . like I'm getting sick. Maybe you ought to keep your distance.

STARTULL: Okay, Big Blue. I hope you feel better soon.

NARRATOR: Startull turned and saw Elder Yellow Star retreating into the distance. Having nothing better to do, Startull began to follow. . . . Then, all of a sudden, there was a terrible explosion.

BIG BLUE: *[Pretend to **EXPLODE!!!! Wave your scarf around. Then LEAVE THE STAGE. Several minutes pass before you act again.]***

NARRATOR: Startull went tumbling.

STARTULL: *[mimic tumbling in the direction that Elder Yellow Star went.]*

NARRATOR: Startull tumbled so fast and so far that when the young yellow star finally regained consciousness, it was right alongside the Elder Yellow Star.

STARTULL: Uhhhhhh.... What happened?

ELDER YELLOW STAR: Such a powerful shock wave and enormously bright light can mean only one thing . . . I am sorry to say: one of your sibling stars has just gone supernova.

STARTULL: Sorry? How can you be sorry! That bright light is awesome! I'd love to be able to do that!

ELDER YELLOW STAR: Perhaps. Supernova is a noble path for a star. Supernovas generously send back into the galaxy all the complex atoms that they have made during their short lives.

STARTULL: What do you mean by "short life"?

ELDER YELLOW STAR: When a star goes supernova, it explodes violently and sends back into the galaxy most of what it has made inside itself — things like oxygen, and silicon, and calcium.

STARTULL: Hey, that's what Big Blue was making . . . Oh. . . *[begin to look very sad]* Big Blue was making oxygen and calcium, but then started to feel sick.

ELDER YELLOW STAR: *[comforting]* Yes. I am sorry to say that your sibling has died, and the others will die too very soon.

STARTULL: *[with sadness, disbelief, and anger]* How can that be? My blue siblings are so much bigger than I ever was! They have so much more hydrogen to use! They can't possibly have burned it all!

ELDER YELLOW STAR: Oh yes they can! Think about it: If your big, blue siblings are a thousand times brighter than you are, then they must be using up their hydrogen fuel a thousand times faster. That is why they are so bright. And so: Their lives are very short.

NARRATOR: Startull grew quiet, and very sad. The Elder Yellow Star tried to offer some comfort.

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STARTULL: *[angrily]* Of what use is calcium?! Of what use is oxygen? And of what use is STUPID helium?!

ELDER YELLOW STAR: Oh, dear! It looks like another one of your siblings is about to go. . . There is no time left to continue our conversation. It seems that this is the way of the Universe. But I shall see you again, my young friend. I promise you that. In the meantime, I suggest you watch for ...

BIG BLUE: *[Run onto stage **EXPLODING!!!!** Wave your blue scarf frantically and pass swiftly between the two yellow stars. Then keep running off the stage.]*

NARRATOR: Just then, the shockwave from a second supernova explosion sent Startull and the Elder Yellow Star both tumbling, and in different directions.

STARTULL & ELDER YELLOW STAR *[Pretend to stumble off the stage.]*

BIG BLUE: *[Stay off-stage for the rest of the play. Your part is finished. Return only to bow at the end.]*

. . . LOTS OF TIME PASSES. BELOW IS HOW THE PLAY ENDS:

NARRATOR: The Red Giant Star, who was once just an average yellow star, now turned away, and began to wander gracefully into the abyss. Startull watched its friend grow dimmer and dimmer until there was nothing left to see. Perhaps the star had simply ventured out of sight. Or perhaps the Red Giant had shed its red cloak of hydrogen and helium and carbon and was cooling into a very dim white dwarf. Millions of years would pass. Startull continued to make more helium and was very busy watching how life evolved on its little planet. Startull often remembered with affection the Elder Yellow Star. And Startull remembered, too, its big, bright, blue siblings — all of whom had long ago died in glorious supernova explosions. . . . One day, while wandering through the galaxy, Startull saw a very young and very average yellow star in the distance. You know what happens next: Startle began to move toward the young yellow star.

STARTULL: *[Look at audience cheerily and wave.]* Hey! Hello there, Young One!

NARRATOR: Such is the way of the Universe! . . . The End! *[bow for applause]*

BIG BLUE: *[RETURN to stage and BOW for applause.]*