

Information Machine

Chapter 0:

This is a story from a long time in the future. It is set in a time in which mankind is starting over from the ruins it had left behind after nearly destroying itself.

It is not a story about the future, but a story about the world.

Chapter 1:

They bounced around the room as the strange sounds came from the speakers. This all seemed so meaningless, but that was the point. That which is unattainable and unnecessary was beautiful. It didn't matter you were chasing a carrot on a stick when you loved to run.

Sonny thought he could catch the carrot. He used to spend hours in the listening room intent on understanding the sounds coming from the machine. The sounds seemed to be saying something in a language foreign to his human mind. When he couldn't handle the intensity required to focus on this he would fiddle with the knobs on the machine. One day he was able to find some other sounds. They were the sounds of his language. This made him think that there was hope that he would understand this thing that made his fellow villagers feel so free. He learned his machine well; but still pondered at why. He grew accustomed to asking questions, running faster at the carrot. He began to realize that he might not catch the carrot, but the wind sure felt good across his face the faster he went.

"Sac For Wo jex Sey co rit". This was word the tribe said before playing the music machine. It came from Sonny's father's father. He had been just as intent on listening to the machine as Sonny was, or so he had heard. His grandfather had died before he was born and not much was spoken of him. Every week they would take a moment to vacate their minds by sitting together in silence. They would finish with the uttering of "Sac For Wo jex Sey co rit" and proceed to turn on the noise machine and dance around in pleasure. This celebration was performed in honor of the grandfather, but as the sounds from the speakers produced no human words, the honoring of the grandfather contained no human words.

Father believed in Unity of the tribe. All for one and one for all. There were not many people in the tribe; everyone knew everyone else. After years of living together like this, the people learned that the happiness of the individual depended on the condition of the world they lived in. They had come to a comfortable balance. They did not fear the unknown since they did not thirst for the unknown. They had what they had.

Sonny used to move rocks with his father. He didn't necessarily like to move rocks but it gave him time to think. Think about where he came from. One day his father surprised him. "Your

grandfather was a very inquisitive man". This surprised him since his father never spoke about his father. "He was much like you spending time and more time listening to that machine. He said it talked to him and he was trying to figure out what it said. As I grew older he grew more passionate about having me hear what he heard. Day after day he would sit with me and we would recite these sounds. I could not hear what he heard, maybe because I did not want to hear it. He said these words could teach us and take us to great places. I was thinking about great places of my own. After your grandfather was gone, the sounds seemed to change and we listened to them in different ways. But you seem to listen in the old way. It may seem that i had been holding back this knowledge from you. I just didn't want to push it onto you as it was onto me. I think it was necessary for you to find it yourself. But still, I find it funny how I wanted to be shown less about that machine and you want to be shown more. Maybe i treated you how I wanted to be treated, instead of how you wanted to be treated. Ha, i tried so hard not to do what my father did and ended up acting just like him."

Chapter 2:

Every member of the tribe would be sent out when they reached a certain age. They would roam the outerlands and there they would learn to appreciate the value of the whole. In order to do this, he must learn about fear and love. Everyone knew fear; their first breath was one of fear. This is what drove them to live. This was not their only means of survival, only the most basic. Sonny's tribe and family had shown him a new way. One of expanding the self to encompass the many. In this we would live in a better world resulting in a higher chance of survival. Since the day he was born Sonny was shown this idea of love, but now he had to see it on his own. They could only show him things, but in the end he had to see them with his own eyes. His family had shown him love, but he wouldn't really see it until he watched it reflect off of fear. You can not appreciate the light unless you first know the dark. So they sent him out into a world hardened by fear. There he would see how bad the world could be. The lesson not being that this is an awful world, but that we can react to this world in an awful way. His memory of the tribe within this context would let him see he had the power to overcome this.

The day came when he must leave. What he was to do specifically was pretty gray. They could tell him no more, now he must hear. He knew this was a test of love and fear. The last time Sonny knew true fear was the day he was born. The rest of his life the tribe had made sure to let him know that everything was going to be all right. Once again he was to be sent head first into fear. And this made his mother worry. Previously his mother's success had hinged upon protecting her son, but now it was the opposite. Every time before her worry could be resolved with her son's well being, now it was an impossible dilemma. Yes, she worried about her son falling down, but she was just as worried that he wouldn't fall down. It was necessary that he fall down in order to stand up a taller man. And while she couldn't hide the worry she also couldn't explain it to sonny. She couldn't tell him she was sending him out to be hurt. Sonny knew something was wrong; she liked to talk a lot but now she wasn't saying anything. He didn't like to see his mother worry. Most of his memories had been ones of euphoria given to him by his mother. He knew what his mother had given him would get him through anything. He stumbled with this trying to express his gratitude: "Don't worry ma, I can take care of myself". This only increased the unrest filling up his mother's eyes. She

knew her son was strong, but this test was meant to show him he was not as strong as he might think. Sonny's mother kissed him and he was gone.

The outer lands were desolate. Sonny would walk and walk and walk andthink. He had lots of time to think now. At first he spent time wondering about the machine back home. As time went on this became second chair to this idea of fear. He thought nothing could scare him. Nothing had ever done it before.

Wild dogs roamed the outer lands also. They didn't like the idea of this new guy on their turf. Sonny really had no problem finding food, and his abilities seemed to threaten the dogs. One day after a catch he looked up to see he was being followed by dogs. He watched and waited, trying to figure what these dogs wanted. As the dogs closed in on him he began to feel. His head was confused but his body convinced. He knew at that moment that he needed to do something immediately. He ran.

He was amazed and terrified. Fear had slapped him on the face. It was hard for him to imagine that this force was living inside him. Some pre programming telling him what to do. After that day he started to walk a little lighter. Now he spent most of his time pondering in a cave he had found. It made him feel safe. He longed for the days at home with the others. He would sit in his cave, cold, remembering how warm it would be when the tribe was altogether in the same room. He imagined everyone sitting in the cave with him, warming it up with their bodies. This made him think about this idea of love. He always thought he knew what it was, this great gift he had been given. But now he thought it might just be the way he felt when he knew the dogs weren't following him. It was resolution, it was survival. Before, this preprogrammed fear had never had much chance of escaping; the tribe had made sure it didn't come to that. So he thought maybe this feeling of love was nothing more than getting what he wanted; the answering of his fear and making it quiet. He thought 'yes, all i really know is fear. that is the will to live, and love, love is just the absence of fear'. Really he wasn't sure what anything was anymore, but he was sure of one thing. He knew that feeling love was much better than feeling fear.

Chapter 3:

When Sonny eventually started wandering again, he came upon something he had never seen before: the city. He felt intimidated at first, but he knew anything was better than the lonely outerlands. He spent his days roaming throughout the city. He could not understand what these people were saying to him, and he tried not to let them know he didn't understand. At first he used to try to communicate, but most people were very on edge when he did this. They tended to be this way with everything though. He noticed that most of the interactions he witnessed among the people on the street were veiled with fear. This was taken to the extreme with his interactions though since people didn't understand a word he said. So he tried to relieve the tension by learning to watch and listen while keeping in the shadows.

There was one place he found where people felt free to express themselves. It was a huge building with a huge room with many tables. People would sit around and talk for hours on end. They would move from table to table exchanging sounds. He found this place very comforting. He could sit in there all day and just listen. He would go from table to table and no one was ever disappointed to have an audience. Also, no one was ever intent on making others talk; he could just observe in peace. And learn. As he began to catch on he would notice how sometimes when he thought someone had been acting sad, they were really happy and vice versa. Everything seemed backwards at first, but with time he saw it was all consistent with itself. It was just different compared to his convention. This was fascinating. When he left at the end of the night he dreaded going back to the streets where he would have to find a place to sleep. Sonny met Go at the talking centers one night. He was a young outgoing man who didn't seem to mind the way that Sonny stumbled with this new language. As much as he couldn't fathom where Sonny came from, he knew that Sonny wasn't from around here.

After Sonny started getting a hang of things Go told him about the talking centers: "So do you know why we are all here? To get our chance at the big time. You hear that man speaking over the loud speaker every once in a while?" Sonny had always wondered what that was for. Go answered: "That is the announcer calling the next lucky group. It's not very often you get called on that. I got called on that once. They bring you into this little room and you talk. Just talk like always, but this time the whole world can hear you, or that's what you hope. You see,

back before I was born, this man had a great idea. His name was Skylar Rippon. He came upon this contraption that he said could send sounds through the air. His idea was that we could send out all of our ideas and someone out there would hear it, and send back their ideas. It would all be one big party and you'd go away twice as smart. Nobody has ever called back, but we still try. We don't know if the reason nobody has called back is because nobody is out there, or just nobody knows how to call back or we don't know how to listen. Everybody still wants to say their little bit just in case somebody is listening. And a lot of us just like to hear ourselves talk. Meeting you has given me hope that somebody is out there"

Sonny left the talking centers not caring about the streets that night. Go had intrigued him with this thought of sharing information. What a beautiful thing. He knew that somebody was "out there", he was from "out there". He thought back about that night in the cave when he was cold and alone. He thought about how nice and warm it would have been with more bodies in there adding their heat. He saw how "information" at these talking centers was like "temperature" in the cave. Each person in the cave would add their little bit of heat. And each person in the cave could not take away the temperature or use it up any more than anyone else, they would all benefit from it the same. The temperature, like information, was not consumable. Contrast this to food. Food is consumable. Say people were in a cave with some food. Adding more people to the cave would threaten to use up the resource of food, each person getting less. But the temperature and information was not like that. Adding people to the cave wouldn't threaten to use up the resource of temperature, it would instead just make the cave that much warmer. The more people adding knowledge to the knowledge pool, the smarter we all would be, no matter how little some people might add to it. It was beautiful to him like back home was. You had no reason to fear another man here because they could only help you, and hurting them would only mean you would be that much less informed, that much colder. Here we would not fight over a consumable resource; we would all add our little piece and enjoy that which could not be devoured.

Sonny spent a lot of time with Go. He had taken him in and taught him about many things. He let him know that people did not like being scared of each other on the streets. It was just the instinct to fear that which is different. That is why it was so comforting for the people at the talking centers, they were all there for the same thing, even though they were there for different reasons. And that was the real beauty. At the talking centers everybody felt the same, with their similarity being that they were all different. If they had all been the same the

idea of the information pool wouldn't work. If everybody thought the same and was adding the same ideas, the information pool wouldn't grow much. But with everybody adding their own unique ideas, their thoughts would combine to form a monolith of knowledge. This reminded Sonny of a story from back home. It was about these people lost in the desert who drastically needed water. The group looked for water together for weeks to no avail. Finally, somebody figured out they should split up. Everybody went looking in a different place. If just one of them could find where the water was they would all triumph. With more new area being covered now they rapidly found water. Now they knew that you could split up and still be together. He also learned about these listening machines from Go. Go told him there was not many out there, and not many people cared to find them since they were never successful at picking up any messages. Sonny was driven to find one of these things. He wanted to see for himself if nobody was calling or if they were just broken. He finally came across one in an old junk shop. The old man in the store told him "Ah we got one of them, but that thing is busted; all it does is make crazy noises". When sonny turned that thing on he didn't hear noise, but sounds of celebration. It was making the same sounds that his tribe had danced to back home. Sonny was in awe. He now knew that the machine back home was not what he thought it was. He had thought it was a thinking machine with a mind of its own, but it instead was just a listening machine, a radio. It was just receiving transmissions from somewhere; what he thought of as music was somebody trying to talk to him. He had always known those sounds were trying to say something. Also, since the machine back home had channels speaking his own language, he now knew there were others in the world outside his tribe that spoke his language. His machine at home had been relaying a message from that place. Nobody had ever really talked about how his tribe had come to be in their remote land, now he thought maybe they had come from the place sending these messages.

Chapter 4:

Sonny scoured the talking centers spreading his revelation about this place he was from yet had never been to. Listeners would nod their heads. They believed Sonny; of course they did. Why else would they have been going to the talking centers all these years. Still, they didn't really understand him. After all these year of waiting, Skylar Rippon's dream of connecting with outsiders had become more of a tradition than a real goal. It was a sort of religion. They didn't know for a fact that these people Sonny spoke of existed, but they still believed it. They wanted to believe. It was like a vision of heaven, with each of their minds blurring the line between fantasy and reality differently. For them, dreaming was enough. But that wasn't enough for Sonny. He wanted them to see what he saw. He spent much time with the receiver he got from the old man. If he could get it to work like the one back home he could show them that the messages were being sent from his homeland. They would see that they did have contact. Then their dreams would turn to actions.

Go would watch his friend frantically adjust knobs and connect wires in a flurry of frustration. Even though people believed in the imaginary, they thought chasing it was futile. But Go knew Sonny wasn't chasing the imaginary, he was chasing something only he could see. When his friend would talk about his discovery and what he was looking for, Go would just nod his head. Go knew that he didn't really understand what Sonny was saying, otherwise Sonny wouldn't have had to keep saying it over and over again.

Sonny ran out of ideas of what could be wrong with the radio so that it wouldn't produce transmissions from his homeland anymore. He also wondered why he couldn't produce the transmissions coming from this city and wondered about where the "sound of music", that one he had heard his whole life, was coming from. This made him wonder why he had never been able to pick up the transmissions from this city on the radio machine he had back home. 'Maybe the transmitters are broken here' he thought. He told Go

"I don't know why we can't hear the messages from the homeland, But I'm pretty sure that the transmitters we have here are sending out something that the radios can't hear".

"Ah, Don't worry about that, go to bed, you know 'The stars must shine before the sun can

rise' (or 'Sac For Wo jex Sey co rit' as spoken in Go's language)" Go said.

"What?!?" Sonny said..

"Yeah, it's just a saying. My dad used to like it. He said he got it from an old announcer at the talking centers" Go said.

Sonny was not confused on what it meant, he was shocked. These were words he had heard many times in his life. This is what they would say in honor of his grandfather. He never knew what it meant then. That was before he knew that this city or it's language even existed. Sonny took Go's advice and went to bed. He didn't sleep though. He couldn't get Go's words out of his head. These were the words that his grandfather taught to Sonny's father. That must mean that his grandfather had been listening to transmissions from this city. This cities language is the one he had learned and tried to teach to his son. The channel that the tribe listened to had been the same one that his grandfather had listened to, but what the tribe heard didn't sound like this cities language. The transmission must have somehow changed. He remembered his father telling him "the sounds have changed". His grandfather had been studying this cities language all along, and then the transmissions had become altered somehow. That's why sonny couldn't find the transmission coming from this city, because he already had. That "broken" sound of music he heard was coming from here. Why? What was happening to the transmission? He didn't know, but what confused him more than anything was that the people in charge of transmitting hadn't figured out that it wasn't the radio that was broke, but the transmitter. He rolled this one over and over in his head until he woke up the next morning.

Chapter 5:

Sonny told the people at the listening centers that the transmitter was broken. It was sending out corrupted messages, sending out noise. With this revelation the crowd at the talking centers were less receptive to him than they had been before. It seemed a possibility that the noise coming from the radios was a result of a broken transmitter, but they didn't know this. How did Sonny know this, he had never even seen the transmitter. How did this guy on the street know more about the transmitters than the Administration of Information (The organization in charge of running the transmitters). The people were skeptical. But really, they hadn't even given Sonny's point of view a chance because they didn't want this to be true. If all these years they had been sending out a bunch of noise, of course nobody was going to reply. That would make all of these years of waiting one big waste of time. So the listeners stopped nodding their head.

Amidst the frustration Sonny was approached by a man who didn't shake his head, or nod. He met him on the street one night as he came back from the talking centers. Sonny felt a boost seeing that someone was going out of their way to talk to him, the new black sheep.

"You speak dangerous words", he said.

"Who are you?" Sonny replied.

"I know of these transmitters. I was very involved with them years ago. The people of this city do not want to see what you search for. And the administration doesn't want them to see it. Come....."

"Wait, you don't think i'm crazy like everyone else does?" Sonny said.

"I know about the outside. When i hear you talk I know you are from the outside, people from the inside couldn't make that up. Let's go"

They walked back to a small room not far away.

"Let me tell you a story. About the time you were born I was working for the administration of information. I was in charge of monitoring the receivers, the radios. It was a boring job considering nothing but static was all we could pick up. Some of my colleagues had thought maybe the radios were just broken. This was refuted the day we started picking up transmissions from the outside"

Sonny was excited. "So I am right, you have heard the transmissions from my homeland"

"Yes, But the administration could not understand the words your homeland spoke. The sounds coming from the transmissions sounded so much different than our speech that they could not imagine the sounds to be coming from humans, they must be coming from monsters. They were very afraid of these "monsters". They knew the public would be even more afraid. They couldn't let the word out. They suppressed all knowledge of the transmissions. They put up a network of reflectors around the city that kept transmissions from coming in. Even though the receivers were a rare technology among this city, they made an effort to get rid of them. Even so, they couldn't be sure they had found every single one; the reflectors were a sure method of keeping the public from hearing the transmissions. This explains why you could never find these transmissions on your receiver."

He continued "Along with this, the heads of the administration came up with an idea of confusing the monsters. They feared that with all the information we had given them in the past, the monsters might be able to find us, and take us over. They couldn't just stop sending messages, the monsters might get suspicious. Instead they thought they would fool the monsters. They would send them transmissions that sounded similar to talking, but was really just a jumble of words that didn't mean anything. They hoped to achieve two things: First, the monsters wouldn't be able to learn anything new and secondly, the altered transmissions would confuse the monsters. If they had acquired any understanding of our language, this might cause them to doubt it. The misinformation would corrupt their knowledge. Soon they would become disenchanted with their failure to comprehend the new nonsense and give up listening. Basically the theory was, keep throwing a bunch of nonsense into their information pool, and soon the pool would be mostly nonsense. To do this we had a simple solution. We would just delay our original transmission and mix it with itself, then delay that delayed signal and mix it and so on. This would end up sounding like a bunch of conversations going on at

once. This totally whacked out what everything sounded like. It sounded nothing like our language, but it did sound like some message was being conveyed. It sounded like something was trying to be said. This is what you heard coming over the air waves. " "Some of us at the administration didn't fear these "monsters". Maybe they were saying the same things as us, just in a different way. But we were the ones who had been listening to the transmissions day in and day out. The more we listened we began to hear some emotion, hear patterns and rhythm. Unfortunately the Higher ups hadn't been listening, they didn't hear what we did. By the time the higher ups decided that "something needed to be done", we weren't very worried about these "monsters". Instead, we had become petrified of the higher ups. And the more they feared the monsters, the more we feared our superiors."

"After the smoke cleared some of my fellows stayed. Some of them left in shame. I have been hiding and watching....."

Sonny had some questions "Why didn't they just listen? They would have heard what you did".

"Because, when they listened they heard monsters. And monsters don't talk, they growl and snarl. They didn't want to waste their important time listening to growling and snarling. But we had to, it was our job. "

Sonny was perplexed. "Well, why did they think that monsters could understand them then?"

"Ah good question. But i think you are being a little bit sensible about the non-sensical. I guess this is the closest i've come to answering that: Say you have a pet dog. You talk to it over and over. After a while it begins to understand some of your words. It begins to learn your language, but you'll be damned if you can understand anything that dog is yapping about. That dog will never speak. But you don't realize that the dog learns because it has to, if you got thrown into live with a pack of wolves you would probably quickly understand every growl and snarl they made also. But you don't see that, you just see something different than you that you are trying to put beneath you."

Sonny was frustrated with the illogical nature of what the administration was doing. "This is

crazy. None of these people's actions make any sense...."

"Yes, yes. But you must remember, you are on the outside looking in and they are on the inside looking out. You have been on the outside, so when you come inside and try to look out you don't see the same thing they do. You may know what the outside looks like, but you don't know what it looks like from the inside."

Sonny just stared at the man blankly. Seeing this, the man paused. He thought for a moment and then summed it all up with this:

"They were just paranoid. Very, very paranoid....."

Chapter 6:

Sonny knew something had to be done. The word must get out, but he felt the situation was too far gone here. His only hope was to find his homeland and inform them that they had been sent corrupted messages and show them the real messages. Maybe they would be more open. If he could get them behind them maybe it would give him the resources to bridge the gap between the cities. But first he must figure out how to decode the messages, and how to find his homeland. 'This might sound farfetched' he thought 'but it's better than staying around here'.

He had been given a book on mathematics and some plans of the encryption device by the mysterious man from the administration. He could study this information and develop a solution to transform the signal back to its original state. As for finding his homeland, he had an ace in the hole. All of these years of listening to the transmissions from his homeland had given him an idea of where it might be. He had not realized it then, he had not even realized it was a transmission back then, but now in retrospect it all fell together. He knew he would miss his friend Go, but this was something that needed to be done.

"Won't you be lonely?" Go asked Sonny when he told him about his mission.

"Yes." That was all he could say.

That night Sonny dreamt he was in the cave in the outerlands. His parents were there, tribe members, even Go was there. Everything was great, and warm. Then people suddenly started to leave. He didn't start to mind this until his parents disappeared. Then he thought 'I don't want to be alone'. His anxiety increased until Go was the last one there. As Go tried to leave Sonny's fear called for action so he grabbed on to Go's arm. Go kept trying to pull away as Sonny tried to stop him from leaving. They ended up on the ground wrestling, and then fighting. The last image Sonny had was of Go falling down and smashing his head on a rock. Then he woke up.

Sonny woke up in a panic. As he lay there trying to relax he realized that he would no longer be afraid of loneliness. Although it might be hard to be alone, it was worse to be afraid.

People did bad things when they were scared. Look what the higher ups had done out of fear of so called "monsters". Look what he had done in his dream. This all made him come back to the questions he had asked himself about fear and love while he had been roaming the outerlands. Now, his experience had equipped him enough to be able to offer an answer:

Fear is just an ugly voice saying "Me Me Me, do whatever it takes for Me". It's really hard to do good with that screaming in your ear. Maybe we could hear the love if we could just quiet the fear, just like his mother had silenced his cries as a child. Yes, replace fear with love. While in the outer lands he had theorized about love being the absence of fear; now he was convinced. He was sure that Love was the absence of Fear, and he made vow that he would never be afraid of anything ever again.

Chapter 7:

Sonny was back alone in the outerlands again, but this time it was different. Now he had his problem: A goal that he might not yet see, but he could definitely imagine. The man from the administration of information had given him a book on Fourier theory along with plans to the corrupter which was attached to the transmitter. The original signal coming from the talking centers was being transformed before it went out. The transformation consisted of delaying the signal and adding it to itself. This delayed signal was then delayed and added to the original signal. This was repeated, yet each time the delayed signal was added, its volume was reduced. When that delayed signal was then delayed and its volume was reduced, its volume would be even less. After a few repetitions of this the volume would become so low compared to the original signal that its effect would be negligible. Thus we would have a discrete number of delayed signals being added together. Here is an example:

Delay time is 1 second and the volume is cut in half every repetition. At anytime what we hear is what the person is saying now, mixed with 1 second ago, mixed with 2 seconds ago, with 3 seconds ago, and etc. But each time the volume is cut in half so we are adding original plus 1 second ago / 2 plus 2 seconds ago / 4 plus 3 seconds ago / 8 etc. After a while the contributions will become negligible. ie. The signal of 7 seconds ago being added would be divided by 128 (since 4 sec ago / 16, 5 ago / 32, 6 ago / 64). Dividing by 128 makes its' contribution less than 1% of original. Anything past this would be inaudible.

The effect of the above process would be that it would sound as if a bunch of people were talking at the same time, consequently muffling what was being said. It was like listening to the murmur of a big crowd. It was not hard to understand what the corrupter was doing after studying the plans describing it. Seeing this was the easy part. The hard part was reversing its' effect. This was his mission. He somehow needed to pick apart the corrupted signal and transform it into the actual signal coming from the talking centers. He knew the answer lay in the mathematics contained in the book given to him by the man from administration. He spent hour upon hour reading this book and thinking. He was having trouble seeing how it related to his problem. He would think so hard that it made him physically sick. First he would get dizzy and his head would hurt, then his stomach would turn and his throat glands would swell until he became nauseas and shaky. But it was worth it. When he could take no more, he would

lie and think of the beauty of information and the warmth of a full cave. This would make him feel better and he would dive back into the search.

He felt like someone was pointing at something in the sky, and he couldn't see it no matter how hard he looked. Still, he knew if he kept looking he would find it. And eventually he did. It was like learning how to read: When he was young he used to see people stare at groups of symbols on paper. He watched as these characters on the page made the people laugh and cry. This intrigued him, what did they see? Eventually he learned that these different groups of symbols represented objects or actions or descriptions. His elders would point at them and tell him what they said, but soon this grew inefficient. His hunger for knowledge had exceeded the time they could give to the boy. So he learned the alphabet, and he saw that the symbols each had their own unique sound, and when these sounds were combined they sounded like words, words that he already knew how to speak. Now he knew how to teach himself, he could look at the paper and sound out the words. He no longer had to waste his time trying to memorize something that he already knew. He had learned how to read!

Now, years later he realized that mathematics was like that. It was just a new way of representing something that he already knew. Before he could speak he knew what an object was, he could see it. And once he learned to speak, he represented it with a sound. Then, after he could read, it was represented with symbols on paper. Now, using math, he could represent that thing with numbers, where numbers were just a simple way of describing how things were different, or similar, to each other. Numbers were an attempt at comparison, a tool for balance.

He could see, and now that he could see he knew that he could find what he was looking for. Soon, after this revelation he came upon what he hoped to be his homeland. Sonny looked in awe at the city in the distance, and like he'd done many times in the past, he thought about the grandfather that he never knew.

Chapter 8:

Gene Andrews was Sonny's grandfather. When he was young he developed a fondness for birds. He liked to watch them come and go along with listening to the songs they would sing to each other. As he got older he began to think that maybe the birds were speaking to each other; sharing information. Birds would come to a new place, and relay reports on where they had been. Most people did not understand how the noises these birds made could be interpreted as language. But he knew they were saying something, he heard the patterns.

Camille Spencer was a woman who didn't communicate much with the world. She spent most of her time tinkering with things; getting machines to work and organizing things. Many people thought she was wasting her time since they didn't understand the use of her creations. And she would never tell them. She just loved her creations. She had no time to try to explain, her creations needed her. About the time Sonny's father was born, Camille Spencer discovered the radio receiver. She fiddled around with this thing finally getting it to make noises. She somehow got it to pick up the transmission coming from Skylar Rippon's transmitter. But nobody knew what it meant.....

When Gene Andrews first heard the receiver he was floored. He knew it was somebody sending messages, just like the birds. Again, he couldn't understand the language so nobody believed him. He was possessed to crack this code and unleash the power that the knowledge of these messages would bring. He spent night after night listening to the sounds. He began to hear patterns, and he would record the patterns. He would tally the number of times various sounds would appear, building a set of "common sounds". One group of sounds that he became very familiar with was "Sac For Wo jex Sey co rit". This was one thing that everybody could recognize, although they didn't know what it meant (This is the phrase that made its way down to Sonny).

He also studied the dynamics of the rhythm and tone of the sounds, trying to connect it to some kind of emotion. Over the years others began to catch on to his pursuit. An institute devoted to understanding these sounds arose. It consisted of listening centers where people would listen to the transmissions, analyze them and share their results. Although the cause had much momentum, most people outside of it were skeptical. They didn't believe that the

sounds were coming from some other city. They thought it was just noise coming from some crazy lady's machine. But they hadn't spent much time listening to the machine. Regardless of these nay sayers, the listeners continued to listen anyway. In time, Gene Andrews realized that the institute's mode of study had reached a plateau. Now, they needed to see the words in action. It was necessary to physically witness the nouns, verbs, and adjectives that the sounds were representing. Currently they were familiar with some words, but they could only speculate what they meant. They needed to see them used in real life before they would really know. They had to go out and find the senders of the messages and experience the language with their own eyes. Only then they would understand.

Some of the members in the institute were against this. They were afraid of the outer lands. Gene was afraid too, but his thirst for knowledge outweighed his fear. These opponents to his mission proposed development of a transmitter instead. They thought that somehow the outside city would be able to receive and understand transmissions sent from the institute, and they could send back messages answering the institute's question. This made no sense. 'How was the outside city going to understand our language?' Gene would say. 'They won't know what we are saying just as we don't know what they are saying. We need contact.' They were just avoiding the fear, using the transmitter as a talisman to hide behind. Still, Gene was not too outspoken against the idea of developing a transmitter. He knew it would be a necessary tool for communicating with the outsiders once they already understood the outside language. Knowing that, it was clear it couldn't be a replacement to finding the outsiders.

Gene intensely pushed members towards joining the mission, and moral was great. Eventually the idea became a reality. Many of the members followed Gene as they packed supplies onto slow moving vehicles pulled by livestock. Since the people of this city had previously been too afraid to leave the city, they had not developed much in the way of vehicles. What they had were mostly used for farming purposes. There were some vehicles powered by internal combustion engines, but they could not risk running out of fuel. Since they did not know how far they were to go, they could not plan for that.

Although they made their way across the outerlands slowly, they were full of hope. The outerlands were vast though, and much time passed without sight of the new city. The journey

was hard and Gene became ill and died. With the death of Gene came the death of the mission. The hope was gone, being replaced by a need for water. Gene's son was now a man and he knew that the group needed to find a permanent source of water, or else they were doomed. Everyone split up and searched for water. They eventually found a large aquifer accessible by an underground cave. They settled here growing crops with seeds they had brought. They domesticated wild birds and became content in this new land.

The immediacy of survival had led them to forget the ways of the institute. They forgot about the specific thing that Gene had hope for and instead remembered the intensity he had given to that hope. Their relationship with the receiver had become much less specific and much more broad. It no longer represented a challenge, but a symbol for the beauty of the unknown. They began to believe that this new settlement was the city they had been searching for all along.

Some thought that Gene had died from thinking too hard. This led to the demise of that type of thought among the inhabitants of the new settlement. That didn't mean that they didn't have the utmost respect for Gene though. They knew that if Gene had not thought this way they would have never found their new home. They thought that the reason that Gene was the way that he was, was so that they didn't have to be. So they thanked Gene for his sacrifice, forever remembering him with the phrase "Sac For Wo jex Sey co rit" (or "The stars must shine before the sun can rise").

Chapter 9:

By the time Sonny arrived into town, the "listening centers" had long been dilapidated. The driving force behind the institute had left with Gene Andrews. Those who stayed behind had put their energy into developing the transmitter. They were successful with this endeavor, yet it didn't produce the desired effect. Gene was right. They thought it would somehow allow them to communicate with the outsiders who had been sending messages, but it didn't work. In fact, they were now worse off than they were before. Soon after they began transmitting out, the incoming transmissions changed. They didn't sound the same anymore and all the previous study and analysis of the messages had gone down the drain. The listeners would now have to start from scratch. But this didn't happen. Instead, they began to listen in a different way. Instead of listening analytically, they began to listen intuitively. This was the path of least resistance. Analyzing the patterns in the way of Gene Andrews was a tedious process, and without much gratification. People are naturally impatient and usually take the easiest if they can. So what emerged was a sort of madhouse where listeners were hearing things that weren't there. They would hear a sound that, by coincidence, sounded similar to a word in their own language, and then they would give that sound the same meaning as that word from their own language. In essence, they weren't translating at all, just picking out words that sounded like their own. At other times they would hear a sound that would remind them of something, and they would apply that image in their brain to that sound. What this led to was many people having many different meanings for the same sound, and if any of them actually coincided with what the outsider was saying it was by pure luck. Nobody really had any sensible, consistent way to explain what they heard to anyone else. Their definitions of the words would change many times as they forgot they had defined them or as their feelings changed. It was hard for them to speak this language in which they only had defined bits and pieces of. Their understanding was just an illusion. Most of the people outside of the listening centers began to think of these people as a bunch of crazies, and in some sense they were. The listening centers in this broken state seemed to attract broken people. The more people adding their delusions to the pile, the more the listening centers spiraled out of control.

All was not lost at the listening centers. Their saving grace was that the listeners still believed that the sounds they heard were indeed messages coming from another place. Most of the general population doubted that, they thought the messages were just noise. But now, Sonny was here ready to breathe life back into the Institute. The sending of transmissions out to the outsiders had brought success in a different form. Over the years they had continued to send out transmissions feeling like it was a long shot but they had nothing to lose by trying. Since they didn't see immediate results they had thought their requests had fell on deaf ears, but they hadn't. Sonny had heard them and it brought him to the city.

Sonny was here and ready to connect the two cities. He believed he could do this using the mathematics he had discovered in the outer lands. He used it to study the corrupted signal and had come to an understanding. He could use the math in order to convert the signal back to the original signal. Then, he could show the people at the "listening center" what the transmissions were saying. Then the two cities could communicate and show each other that they weren't monsters.

The transformation of the signal was to be a complicated process. The signal was corrupted by combining the signal with a series of delayed, reduced versions of itself. This in turn changed the tone of the sound; it boosted and cut different frequencies of the sound. Here is an explanation why:

A sound wave is the variation of pressure around an ambient state. When the sound wave is added to another sound wave the pressures at each moment are added. This is what happens when the sound wave is delayed and added to itself. By delaying the wave, its' pressure will be different than the original wave's at any given moment. Sometimes the pressures will be in opposite directions of the ambient state, and the waves will destructively interfere which cuts the sound. Other times the pressures will be in similar directions around the ambient state so that they constructively interfere, which boosts the sound. Different delays will make different pressures to be added and thus determine the type and amount of interference. Furthermore, a sound wave can be broken up into a series of waves of individual frequencies. Each frequency of wave has its own amplitude. If the wave has large amplitudes for high frequencies the sound will be heard as a treble sound. If the wave has large amplitudes for low frequencies the sound will be heard as a bass sound. When two

sound waves are added you can add up each of the individual frequencies independently. For different frequencies, the same delay will produce a different type/amount of interference among the frequencies. Some of the frequencies will constructively interfere, while some destructively, even though the delay is the same. Thus, the frequencies of the sound will be altered in a seemingly haphazard way. Some of them cut, some of them boosted, and with different amounts. This will totally change what we hear. The altered signal will sound much different than the original signal. Sonny knew how the different frequencies were being boosted and cut from studying the corrupter plans given to him. Knowing this, he just needed to boost and cut the frequencies in order to get them back to original state. To do this he needed a computer. He needed to sample the sequence of pressures in the sound wave with the computer, and then modify the pressures accordingly. These pressures could then be played back to produce the original signal. The mathematics used in changing the pressures is called Fourier theory. The sequence of pressures could be put into a calculation called a Fourier Transform to produce the amplitudes of the various frequencies. These amplitudes can be altered, cut and boosted as dictated by plans. These amplitudes can then be put into an inverse Fourier Transform to produce the modified pressures. VOILA!

This is what Sonny did. He found a computer and got it to work. Then he programmed it and hooked it up to the output of the radio receivers. Nobody really cared when he brought it into the listening centers and set it up. But, when he got it to work the people were impressed. The older folks were stunned to hear the radio talk in ways they hadn't heard since the transmissions changed. People were intrigued by Sonny and they listened to him when he talked. Sure there was a chance that he was just like all the other crazies who said they understood the sounds, but he was different. He was smart enough to be able to produce the new technology, he must know something. Also, he could fluently speak the way the radio did, unlike the other listeners claiming comprehension. But the real reason is, they wanted him to be right. They had been believing in the outside for years, and here was a chance at contact. So they listened. And after a while he started to make sense. He was consistent and could explain what the messages were saying with great detail. Soon a following grew of those wanting to learn the language through Sonny. Others from the general population who had thought they were nuts, now became interested. The listening centers had experienced a great rebirth attracting the interest it had while in its' former glory with Gene Andrews.

All of this excitement was just a means to an end. Sonny knew he had to make a big splash so that people would take him seriously. Then he could bring them the true message. And so he did. He told them that the people who talked over the radios had received our transmissions back in the day. They had failed to understand the transmissions and they were scared. They had corrupted their outgoing signals hoping to protect themselves from the unknown. This was the reason for the change in sounds back then. He said we must not do the same. We cannot be afraid of them and lash out in fear. Instead, we must try to understand the foreigners, and calm their fears. Then we can come together and share our knowledge. Then we can come together and become stronger than we are alone.

Chapter 10:

Some of the people didn't relate to the pacifism in Sonny's message. All they saw was somebody who had acted like an enemy. This made them very afraid and they covered up the fear with pride. Activists organized into a movement of hostility. Their prime objective was to seek out and destroy those who were threatening them. But they had a problem. They were still too scared to venture out in to the unknowns of the outerlands. Ironically, their solution lay in Sonny. With Sonny's help, they could find out who, what and where these outsiders were. Armed with this knowledge, they could safely go out and conquer this threat.

On the other hand, many people had related to Sonny's message but they were pacifists, not ones to hold back the angry ones. Consequently, the hostiles gained momentum as the dominant force at the listening center. The leader of the uprising declared their dominance giving this speech:

"Sonny Andrews tells us about these outsiders who have been sending us messages. How they had corrupted these messages hoping to confuse and mislead us. He said they did this to protect themselves, I say they are a bunch of cowards. He said we should not fear them, I say so too. How can you fear a bunch of cowards? He says we should try to understand them, I say true. We should understand them so that we can hunt down these small minded people. Finally, he says we must come together so that we will be stronger than we are now. Come together? Oh, we will come together. We will come together and realize much might as we devour these cowards. Sonny Andrews has delivered us a great gift and glory will be ours".

Sonny fled the hall that night overwhelmed with fear. It was all that mattered underneath the weight of its suffocating ambush, because fear was the worst to those who thought they were immune to it. And even worse to those who were alone. He knew that the crusade was over. He had to destroy the invention or else the invention would destroy the two cities. So he went back later that night and got his computer, smashed it against the ground and threw it into the river.

And then he disappeared.

Chapter 11:

Some say that this is a sad story, that Sonny was a quitter. They say he had given up on the cause, and not only was he a quitter, but he was a hypocrite. He was no better than those who had sent out the deceptive messages, or those who sought to understand and then infiltrate the others. He too was just afraid and responded in a destructively protective manner. But we know different. This is no sad story. Sonny had not given up, he had not lost hope. He could not have lost his hope. Hope was that thing that put life into him when he was born. And although it may sleep at times, it does not truly die until we die. And now, his hope was more awake than ever. so awake that he nearly felt it unnecessary, for as the hope slept it had undergone a metamorphosis into faith.

Maybe he was a hypocrite, but hypocrisy is a great teacher when you see it in the mirror. The lesson was that he wasn't so different; he was human just like everyone else. Of course he was going to be afraid. It was impossible not to be. By trying not to be afraid, you would just become afraid of being afraid. He could keep the fear out of his mind, but he couldn't keep it out of his heart. Fear was our most basic instinct, our will to live. He could not change its presence in him, only his response to it. Seeing this connection made him realize how disconnected he had been. How terribly lonely he had been. That painful loneliness where you want to be alone. His mind had done a good job at repressing it, but now his heart was screaming out all that had been trapped inside.

He had always failed to grasp why no one could understand him. Now he knew. He was saying don't be scared, but he was shaking in his boots. His logic had told him that he might now be able to control what others did to him, but he could control what he did to others. From that, he concluded that there was no reason to be afraid, and he promised himself he wouldn't be. But maybe he still was. He had driven harder and harder to bring the world together, yet the harder he tried, the further it drifted away. Now, he realized that he was trying to bring the world to him when he should have been bringing himself to the world. All his dreams, efforts, they had just been procrastinations. He was trying to avoid the fact that he was afraid, afraid that he would be of no use to a world that seemed scared of him. By doing that, one becomes very lonely. And he found the loneliness to be much worse than any fear he had ever encountered. Sonny had sought to combat the fear, yet the lonely man has

no chance against fear.

Sonny had thought that a brave man was the one who felt no fear. He had thought he had been brave when really he was only ignoring the fear, avoiding the fear. He had thought he could cast the fear away, but really the fear wasn't going to go away until it was done with you. Knowing this, he realized that true bravery is confronting fear, and standing up to it. Bravery is being scared of something and doing it anyway. Bravery isn't trying to force your heart into changing its mind. The only way to change your heart is to complete what it thinks it cannot do, thus proving to it that there is nothing to be afraid of. And the only way to do this is to disobey what the fear commands you to do. If you instead try to make yourself not afraid, you inevitably stay afraid. You end up never trying because there will always be some risk. No matter how much you try to control something, there is always a chance you won't be able to. So in order to be able to stand up, you must be willing to fall down.

Sonny's flaw was that he thought that the fear had total control over the body. He had thought that one must not be afraid or they would be forced to do the bad things fear told them to do. But now, he realized that he had a choice in the face of fear. While his mind could not change the fact that he was going to be scared, it could change the actions he performed while scared. To do so he would have to be brave.

Sonny knew the only way he could find the strength to be brave was through love. Before he had thought that love was just the opposite of fear, but now he knew he was wrong. Love was an entity unto itself. Like fear, it too was a means of survival. Yet, while fear was cold and autocratic, love was warm and forgiving. Love gave you the strength to make a choice to reject what the fear was yelling at you to do. But, love was not given to you itself. It was not delivered, but discovered. Discovered with the help of others who saw it. The reason being that to wield the power of this love which could stand up to fear, one must learn to show the love themselves. That is because the strength of this love resides in forgetting about the self, if even for just a moment, for the self is the root of the fear. As a pupil of love, Sonny had been shown that he belonged in the tribe. As a pupil of fear, Sonny had struggled to belong in the world. Now, it was time for the student to become the teacher. Now it was his turn to love. Thinking this, Sonny was overcome by a sense of belonging in a world that moments ago seemed so cold. Although his answer may have been a question (Who do I love, How do I

love, When do I love?), he knew he had passed the test that began when he left the tribe. Now he knew. He knew he could go home, and when he saw his mother, he would kiss her first this time, and he would know that he was right.