Smartbomb

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Chapter1

"Good morning children!" Doctor Xavier Garcia said, addressing the room of assembled children before him. "And welcome to the Lockland Mariner munitions facility. Today we have a full tour prepared for you. I hope you will all enjoy it as much as we enjoy working here."

In front of a mass of children, all aged eight and nine, a lone female teacher stood and tried to keep order. All of them were extremely excited, and as an educator she worried about their behaviour. Their school had been lucky to get permission to the inside of the plant in the first place. Any rowdiness or misbehaviour on their part would destroy whatever chances they had to do this again next year.

"Now children stay together and listen to what the Doctor says." She warned. Already the students were clamouring to get to the fore of the group, trying to get a front-row glimpse of the man who was the brains of this particular operation. She could only wonder how they would react when faced with what was beyond them in the next room.

"We have been given a rare opportunity." She continued. "We have been given the privilege of seeing the very place where all the things that keep us safe are built. We don't want to miss a thing now do we?"

The Doctor noted their enthusiasm and laughed to himself. It was typical of children to be so enthusiastic considering the importance of the facility's work. Giving a quick look at the teacher, he acknowledged her with a nod and reassured her.

"Don't worry ma'am. We won't miss a thing. We have a full tour and I doubt anyone could possibly be distracted along the way. Now if everyone will accompany me, I will give you a quick tour of our programming centre."

The Doctor turned and advanced towards the door at the very end of the room. Raising a personal command pad and pressing one of the small black buttons, the door raised itself to reveal an open room with high metal walls and skylights on the ceiling. A few paces in front of them, a small set of tracks had been laid that ran perpendicular to the entire operation.

The teacher busily herded the last of the children out of the anteroom while the Doctor pressed another button on his pad and summoned a long, multi-segmented car that would take them on the rest of the tour. As the car slowed and pulled into position in front of them, he turned again to speak to them.

"Here is our tour bus children." He said. "Hop aboard, but before you do, I feel we should go over some minor rules. First of all, keep your hands and feet inside the vehicle at all times. Second, if anyone needs to get off for any reason, be sure to tell me first. Only I have the master control so only I can tell it to stop. Last, if anyone needs to go to the bathroom during the tour, I ask that they wait until we reach the end of the assembly line. Any questions?"

The Doctor looked around the group. The teacher also scanned them, making sure they all understood. After a second of silence, the Doctor turned and ushered them into the car.

"All right children." He said as he climbed into the front cart with the teacher beside him. "Here we go!"

Xavier keyed another button, and the cart began to move with the slow humming of its servo-motors. The children cackled with glee as the motion pushed them back into their seats. And they were off!

Their first sight was one of the assembly rooms where machines were busy putting chassis pieces together. Between the moving vehicle and the assembly line, a wall of airtight plexiglass kept the tour bus and the assembly line completely separate.

"Here is where the operation begins children, with the construction of all the chassis used in the construction of the munitions. Our machines are busy twelve hours straight ensuring that each and every computer and warhead that comes off our lines has a casing to hold it in."

The children noted the machine arms with interest as they clasped parts with mechanical fingers, slid pieces together, and welded joints. The pre-programmed dance was highly methodical, even beautiful in its artistry.

"Each chassis is made entirely out of Kevlar and cellulose." Xavier said.

"Do you know what those are children?" The teacher asked them. One by one, all of the students admitted ignorance, all except one.

"Isn't cellulose that stuff that paper's made of?" A young boy named Tommy asked. Xavier smiled benevolently as he looked back at the boy's spectacled face.

"That's right student, cellulose is the same material used to make paper. At least, until we stop using paper altogether, which will be pretty soon."

Xavier nodded to the teacher, who nodded in return. One of the children raised their hand.

"You mean you make bombs out of paper?" She asked innocently.

"No," the doctor said with a laugh. "We use the same basic material, but here it is very tightly pressed until it becomes so tough that it's almost unbreakable. And then we surround it with a hard Kevlar shell, which is very good at resisting high-temperatures, and is also very hard to break."

"I heard about that stuff too." Tommy said. Some of the other children began to roll their eyes. Xavier smiled. It was always nice to have a brainiac on the tour, even if the other children did not appreciate them. Pointing to him, he urged the boy to continue.

"That's the stuff soldiers used to wear to keep them safe from bullets."

"Correct!" Xavier replied. "Both of which became obsolete thanks you our work here. Round the next corner," he said as they passed beyond the edge of the room and the track veered left, "we will see where our more sophisticated machines assemble the warheads, without which any weapon would be just a dud."

Another room opened in front of them to reveal another stretch of assembly line. This one however, was much further away and appeared to be surrounded by cement barriers and looked far more intricate. Along the far end of the rooms, big yellow hazard signs had been plastered up on the walls to keep attention fixed on the potential for danger.

"Notice all the safety features." The doctor said next. "The assembly line is walled off with bomb-proof walls, and each and every mechanical arm has a built-in deactivation program in case it needs to neutralize a warhead. These are to ensure that if any of the warheads should become active by mistake and cannot be shut down, that the blast will be completely contained. Safety is always a number one priority here at Lockland Mariner."

The children nodded and muttered in agreement. As they passed into the next room, they saw the assemblage of chassis parts with warheads. After that, they got to see how the munitions retro-rockets and manoeuvring thrusters were fitted to the chassis. All in all, they were getting to see how the assembling of a Smartbomb was done, right before their very eyes. Nevertheless, Xavier and their teacher sensed that boredom was beginning to set in. Traveling in a car behind plate glass was certainly not what they were expecting. They must have expected a tour where they could see and touch the Smartbombs for themselves, and told their onboard AI's how they appreciated what they did for them. Luckily, a much more exciting feature awaited them on the next leg of the tour. "Next children, we will get to see the testing ground just outside the facility. In just a moment, we will come to the end of the track and I ask that everyone wait until it has completely stopped before getting out."

"You hear that children?" The teacher asked just to be sure. All the children nodded, and soon they came to the end of the cart-ride and disembarked. Leading them through a dark passageway and into another room, the Doctor pulled his personal pad out again and keyed the room's lights.

The children all let out a moan of complaint as the room was suddenly lit up. Adjusting their eyes, they noted the many chairs that had been set up facing the far wall. The dutifully teacher instructed them to find a seat while Xavier pressed another key which made a large panoramic window open in front of them. The children all let out a exclamation as they realized the chairs had been set up to give them a seated view of a Smartbomb being tested. In anticipation, they all quickly grabbed a seat and sat themselves down. Moving over to the window, Xavier stood to one side and began to explain.

"Now children, keep your eyes on the far field. What do you see?"

One by one, the children strained to make out the familiar shapes of poor-looking structures, mud-brick houses with metal roofs, all of which were arranged in clusters across the wide expanse of the open field. Within or in close proximity to each of the clusters, some drab-looking vehicles had been positioned.

"What are those things?" One curious student ventured to ask.

"Those children," Xavier replied, "are primitive conventional weapons that used to be known as anti-aircraft artillery, or surface-to-air missiles. Some governments and rogue states still use them to this day."

The children strained again to make out the familiar shapes of gun barrels and the pointy tips of missiles aimed up at the sky.

"And now children, we will see what peace and security look like to those who would try to take them from us."

With that, all eyes in the room became intently fixed on the far field, waiting for the test to begin. All eyes that is, except for Doctor Garcia's. Having witnessed so many successful tests in his day, he felt content stand back and watch the children's' reactions instead. Filled with pride, he knew that no one would come away from the tour without an intense feeling of admiration and joy, knowing that the work he and his associates did kept them safe in their homes from the scourge of war.

Seconds passed, and in the far field, just above the clustered houses and vehicles, a flash appeared in the sky. The children all gasped as they wondered what was happening. Doctor Garcia explained:

"You see children. The Smartbomb has found its targets and is deciding how to go about destroying them. It has taken notice that there are several of them and of the fact that each of them is surrounded by civilian structures. It is therefore opting to use a cluster warhead option and at this moment is preparing its angle of attack so it will strike them, and only them."

Another second passed, and the field lit up with successive explosions. One by one, the drab vehicles lit up in a fireball and began to puff black smoke. The children gasped again and again with each new explosion. As the fires cooled and black smoke began to dissipate, the children could see that amidst the wreckage of vehicles, not one of the houses had been damaged. Another gasp of awe filled the room, followed by a wave of applause. Xavier

instinctively gave a little bow and waited for the applause to end before introducing the next segment of the demonstration.

"Now that was a demonstration of the Smartbomb's combatant recognition program, or CRP for short. This is the program that tells the AI how to discern between an enemy combatant and a civilian, thus allowing it to take out only those who would pose a threat."

Doctor Garcia pointed out the field again to direct their attention on some new targets that were beginning to present themselves. From both ends of the field, two long columns of vehicles began to roll in and converge on a single position.

"Now we will see the friend versus foe program which allows the Smartbomb to destroy our enemies, while leaving our own people and those of our allies intact. Notice the vehicles that have assembled out there now. Do you know what those are?"

A hand went up in the audience. This time it was a huskier kid that inspired Xavier to think of a schoolyard bully. Pointing to him, the child answered in a low, baritone voice.

"Those are tanks. I recognize those. My dad used to make..."

"I'm sorry but I have to interrupt you as our volunteer is now taking the field." Xavier said.

Once more, the children looked out and saw a single person disembark from one of the tanks and walk directly into the middle of where the two columns had assembled. Arrayed about him in two semi-circles, the tanks sat and waited while the man raised in his hand the standard of the North-Western Treaty Organization (or NORWEST for short).

"Now children, to allay any fears you might have, those tanks were all remote controlled and that person is one the technicians at this facility. I assure you that no human lives are in any danger here. What you are about to see is just how sophisticated the targeting and reasoning centres of the Smartbomb's AI truly are. That man, with nothing more than a tiny flag in his hand, is able to signal to the Smartbomb that he is a member of the Allied states. He is surrounded by hostile forces and needs to be rescued. What do you think his chances are?"

The children began to nod their heads. Even though the tanks were unmanned, they looked particularly vicious to the eye. Given that this was a mock-scenario, they all believed that if it were real, he was as good as dead. Doctor Garcia dismissed their worries with a casual wave of his hand.

"I assure you, he is in no danger. Watch this."

Once again, a crimson bolt flashed across the sky, and in the field in a series fireballs erupted and consumed every tank within the two columns. The bright light temporally masked all indications of the one man standing there between the columns. But once again, once the smoke and fire cleared, the small figure of the man became visible, and even the standard in his hand remained intact.

"Ha ha! Wasn't that wonderful children?" The doctor exclaimed.

The children erupted with another round of applause. The teacher, on the other hand, appeared to be seriously shaken. Perhaps she had been worried that the children were about to witness something gory. But in the end, even she had been awed, and very much relieved.

Doctor Garcia smiled triumphantly. Not only had the tour gone exceedingly well and the children been horribly impressed; they once more had pulled off a successful test and validated the role the Smartbomb played in the new age of warfare. Closing the window, he asked everyone to accompany him as he led the way to the next segment of the tour.

The last leg of the tour took place within the massive domed room that was the programming centre. Arranged in a massive horseshoe pattern around a central spire, dozens of technicians, programmers and AI interface specialists worked away at their machines. Doctor Garcia and the teacher continued to guide the children around, keeping them behind the guardrails that separated the workstations from the main walkway.

"And here children, we come to it at last." He said, turning to face them again. "The programming centre of the Lockland Mariner facility, the nexus of all our efforts to create, program, and commission the peace-keeping devices known as Smartbombs. It is here that our skilled crews go about the arduous task of ensuring that every weapon is equipped with a thinking, reasoning mind. Without it, none of the weapons would be able to do what you witnessed just a short time ago."

The children advanced to the edge of the guardrails and eyed the computer stations and consoles, trying to get a glimpse of what the busy workers were up to.

"Now children," the teacher warned, "don't get too close. We don't want to be seeing anything that could violate security protocols here at the facility now do we?"

"Oh no, no!" Doctor Garcia laughed heartily. "I assure you children that there is nothing here that you could see that would interest you. Although the work these people do does help to create the inventions you so much appreciate, there is little more going on in this room except lines and lines of code. Nothing interesting for you, just long sequences of numbers."

Still, the children were interested, looking all around for any glimpse of something that might tell them something about a Smartbomb's brain. One by one, he brought them around to observe the different sections in the programming centre and explained it's overall importance in the creation of the weapon.

"Here, children, is where we work on the Autonomous Matrix Program, or AMP for short. It allows the machines to think on their own so controllers don't need to tell them what to do. And then there are the people who work on the all-important Friend or Foe systems, FOF, which you saw at work outside. Next to them are the CRP programmers who ensure that the Smartbombs have all the information they need so they can tell a combatant from an innocent civilian. And last of all, there's the Security Protocols that we design, which include the new and revolutionary Subterfuge systems."

"Subter-whaaa?" The bully-boy interjected loudly. Some of the other children began to laugh.

"Billy, be quiet!" The teacher yelled. Xavier waved his hand calmly.

"It's quite alright ma'am. Sub-ter-fuge, children, is a fancy word that army types like to use to describe deception. Uh, do you know what that means?"

A small girl in the group proudly raised her hand. When Xavier pointed at her, she began with a haughty little explanation of how she knew.

"My mother's a writer. She does mystery novels." She said beamingly. "That's when somebody lies in a very serious way. When you lie to someone else, they say that you *deceived* them. It's all...."

"Okay, thank you." Xavier said, cutting her off. "Yes, this program enables the Smartbomb to give the enemy false information if ever they should be captured by them. We here at Lockland Mariner knew very well that if the enemy's of this state ever got their hands on a Smartbomb, they would just love to pull it apart so they could get a glimpse at all the information that it has inside. After all, as you all know, each and every Smartbomb is connected to the NWTO defence network. Why if they were to gain access to that network, they

could know our full military capabilities, the locations of our secret bases, or the disposition of our military forces around the globe. Therefore, with this new program in place, we can be sure that the only information our enemies could ever retrieve would be completely false."

The children all nodded, even though not all of them fully understood. It did not matter though. They were prepared at this point in the tour to accept just about anything he said on faith. Even so, he suspected that the tour was once again beginning to go above their heads, and they might very well be lapsing into boredom. Luckily, there was still one stop left on the tour that was bound to get their attention.

"And now children," he announced with more than just a touch of showmanship, "I have one final treat for you. If you will all follow me into the anteroom, I can let you hear from the foremost authority on Smartbombs themselves."

The children fell into line and followed him as he made his way to the exit from the programming centre and into another lounge area. Moments later, the children were seated again with their eyes fixed on a large monitor at one end of the room. As Xavier keyed the monitor for the desired broadcast, the children began to buzz a little. As soon as he was ready, he walked to the front of the room to get their attention.

"Children," he said as he placed the command pad back into his pocket. "I have been telling you all day about the benefits and capabilities the Smartbombs have. But please, don't take my word for it. Here for us today is someone who decided to take some time out of their busy schedule to come and talk to you. This individual, I'm sure you'll agree, needs no introduction."

He pointed in the direction of the monitor and keyed the lights to dim. The screen came alive with a mechanical voice, filtered and synthesized to sound pleasing and almost human.

"Good morning students. I am SB-AI-C7831, but you may know me as Smartbomb."

The children gasped and cackled with glee as the voice was accompanied by a picture of the munition, standing upright on its boosted with its electronic interface facing them. In the middle of the interface, a small series of lights designed to mimic human facial features danced as it spoke.

"I am currently monitoring the situation in the Europa bloc right now, keeping an eye on our mutual rivals in the East. It is believed that no one will be threatening you today, thanks in part to the eternal vigilance of our forces who are busy keeping the peace. And of course, to yours truly, and others like me."

The children clapped and began to call out to the screen. The noise level rose as each child seemed determined to say something to the weapon more than the next. The teacher stood up and tried to restore calm, as did the good doctor.

"Children!" Xavier cried. "It's alright. You will all have a chance to talk to C7831, but you will have to talk to him one at a time. The interface cannot register all your voices at once."

The children quieted down, and the teacher began to go around the group, delegating who could speak.

"Ummm, Smartbomb." A little girl asked. "Is it true that you hurt soldiers, but leave innocent people alone?"

"Of course young girl." The machine said with an electronic smile. "It is a fundamental part of my programming. I seek to neutralize only those that could do you harm, and even then with only the minimal amount of force needed."

A young boy was the next to speak.

"How big an explosion can you make?" He asked. The other children laughed, while some of the more mature girls in the room rolled their eyes. A typical boy question that was.

"Ha ha!" The machine exclaimed. "That depends on my complement young man. But rest assured, I can produce an explosive yield soft enough to bring down a straw house in a highly clustered neighbourhood, or strong enough to level an entire underground bunker complex. I can produce an explosion in the mega-ton range, as powerful as a hydrogen bomb, if needed."

"Whoa!" The boy said before being told by the teacher to sit down.

At last, small girls with spectacles and a freckled nose stood up.

"Smartbomb?" She said timidly.

"Yes my dear?" It asked in a soft electronic contralto.

"I just want to say... thank you. For keeping me and my mommy safe."

The girl appeared on the edge of tears. The machine, for its part, appeared to be equally effected. Xavier knew it was only a simulation, but it worked well when it came to public relations. The room grew quiet as all were humbled by her comments. Slowly, everyone began to nod his or her agreement with her. One by one, they began to thank the weapon as well. Soon the teacher had to intervene to get them to quiet down. Xavier smiled, and waited for calm to return before asking all the children to say their good-byes.

"Well children, I think it's time for you to be getting back to your classes isn't it?"

The children let out a long moan in unison.

"Now kids, we know that the doctor needs to be getting back to his work. We don't want to keep him do we?"

"What about SB?" One of the more bold students asked. "Does he have to go too?"

"I'm afraid so." Xavier said. "He has a whole frontier to tend to, and the longer we talk to him, the less he can do his job."

The students moaned again as they accepted the validity of the doctor's reasoning.

At last, their teacher brought them together and suggested they all thank the doctor for the lovely tour. Dejectedly, they did so and bid C7831 goodbye while making their way to the exit. The teacher came last, and thanked the doctor one last time before leading the children back to their transport. Happily, Xavier thanked her for bringing her students around and wrapped up what was for him, and C7831, a perfect tour.

Chapter 2

"Problems, what problems?"

"I may be jumping the gun here sir," the lithe man in dress uniform said over the globocom screen, "but we have noted some minor anomalies in Central's behaviour."

"What kind of anomalies?"

"Well, our diagnostics indicated nothing, but we have noticed some suspicious things going on with Central. Specifically in terms of its research and communications activities."

Dr. Nerud nodded as he took another spoonful from his tray and shovelled it into his mouth. Noiselessly chewing on the pureed protein mush, he responded to the Captains report out of one side of his mouth.

"What so strange about its activities?"

"Well sir, Central has been accessing its archival information quite frequently, but we noted that the archival information it was accesses had nothing to do with the current situation in South-East Asia. Also, it has been communicating with its field units with increasing frequency these past few months. We didn't think much of it at first, but it grew more and more frequent as the situation in Asia worsened."

"And this should be considered abnormal?" Nerud asked. "It's to be expected that Central would be taking on greater comm activity with its field units and advance command bases whenever a crisis appears to be looming. And the archival stuff, that's perfectly normal too. It's part of Central's directives to know as much as possible about a situation before it is called upon to make strategic decisions is it not?"

"Yes sir, but..."

"And as I understand it, a crisis is looming, yes?"

The Captain looked hesitant, irritated even by his last comment.

"Sir, I..." he fumbled.

"Oh come now!" Nerud interrupted. "I have full security clearance Captain, you can tell me what's going on!"

"Sir, perhaps if the Admiral spoke to you himself about this."

"He asked you to make the call, didn't he? I assumed that he was preoccupied."

The Captain took a deep breath. "Yes, sir. He has been in Bonn for several days now briefing the Joint Chiefs. He asked me to make the call in his stead."

"Than you should feel free to talk to me, son. There are very few secrets between your boss and me. So tell me, what's the news from Asia?"

The Captain took another deep breath. Clearly the latest news was bad.

"The situation has been getting worse every day, sir. The Eastern Bloc has continued to announce its support for the rebels in Java. Today they ordered another three ships to the region to monitor our blockade of the island. Admiral Westheimer has ordered another carrier to be moved into the region, but the worst news is still coming from the island itself."

"I take it the government has been having a hard time dealing with the insurgents?"

"Yes, sir. It looks like they are beginning to fear that they won't be able to end this crisis as soon as they predicted."

"If they can end it at all," Nerud mumbled.

"I beg your pardon sir?" the Captain asked.

"Nothing." Nerud said. Taking one last spoonful from his tray and tossing it in the receptacle next to him, he directed his attention back to the screen. "As I said before, this should

all be considered perfectly normal considering the weight of this problem. And you said that your diagnostics revealed nothing out of the ordinary?"

"Well, yes sir. But that is where things got suspicious."

"What do you mean?"

"Well you see sir, we didn't really run the diagnostics. As you know, Central has it's own systems for performing self-checks, and when we asked it if we might try doing a manual one, it refused."

"Refused?" Nerud demanded.

"Well, not in so many words sir. But it insisted it was fine and that we didn't need to start looking through its circuits. We persisted, but it told us that if we had any concerns, we should contact the head of the programming department."

"Me," Nerud said obviously.

"Yes sir. That was the other reason that the Admiral asked me to contact you. He said that this last detail was certainly out of the ordinary."

Nerud's face was scrunched up into a funny little parody of itself. Anyone who was not familiar with his position or its importance might have found it funny. The Captain was certainly not one of them. For the next few seconds, he said nothing and merely pondered. Tired of waiting for a response, the Captain continued.

"Central eventually submitted to a full diagnostic performed by our techs, but they said they couldn't find anything. Once they were done, it reiterated its position."

"That it was fine and you had no right to go looking into it?"

"Yes sir," the Captain replied. "I can tell you sir that it almost sounded like it was gloating when it did so too."

Nerud's face scrunched tighter. This time he looked more angry than confounded.

"That is an unfounded assumption, Captain," he said. "As is much of what you've told me today. If Central said it was having no problems, than chances are it was having no problems. But as you and your techs have gone ahead and proven that for yourself, I don't see that I have much more to tell you. Anomalous or not, there simply is no reason to suspect it is having any problems."

"Sir, respectfully," the Captain began to say carefully, "If we are nearing a possible confrontation with the Eastern Bloc powers, we can't risk any problems with our AI's. If Central has a bug, then all the Smartbombs do too. They take all of their orders from it, after all. What if there really is a glitch in the system?"

"Son!" Nerud finally exploded. "Has Central ever malfunctioned? I ask you, has it? No! Not the slightest error in over twenty years of service! The bloody thing was specifically designed to be error proof, and I'll be damned if some low-ranking army brats start telling me otherwise!"

The Captain went quiet, aware that he had overstepped his authority, and with the very man who was responsible for the design of Central and all its programs. Clearly he had taken personal offence at the suggestion that anything could be wrong with his baby.

"I apologize sir. I only meant..."

"Of course," Nerud said, waving his hand. "It is I who should apologize."

The Captain waited from moment while Nerud tried to regain his composure. Taking a few breaths and smoothing out the ruffles in his lad coat again, Nerud offered up a compromise.

"If it will settle tempers over there at HQ, I could make some inquiries, even speak to Central myself from our outlet here. Will that put your minds at ease?"

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