

Prologue
June 4, 2005

The bright summer sun illuminated the biochemistry laboratory at the Weizmann Institute in Rehovot, Israel. However, this light went unnoticed as both Dr. Abraham Stein and his daughter Sarah glared at the extra long DNA molecule displayed on their computer monitor. Something had gone wrong. They had never seen results like this before from their experimental DNA computer.

Dr. Stein pointed at their analyzing computer's screen. "Sarah, what the hell is this?"

"I haven't any idea." Sarah was momentarily baffled, she could only think of one possibility. "It must be contamination."

Sarah sensed her father's disgust as he shrugged his shoulders, "Yes, I agree. It looks like the DNA pattern of a live virus."

Before Sarah could respond, Ahmed Mohanna, a computer graduate student from Palestine, entered the lab. He must have noticed the concerned looks on both Sarah and her father's face as he asked, "What's going on?"

Startled, Sarah looked up. "Ahmed, I'm glad you're here. We need another opinion. It looks like our latest DNA data is corrupted. It appears to be contaminated with a virus."

Stroking his bushy mustache with his right index finger, Ahmed asked, "How could this have happened? I thought we took every precaution to avoid any contamination."

Sarah knew her father was frustrated as she watched him fling his hands into the air and say. "I know. But it looks like this damn virus got in and screwed things up."

Sarah was fully aware that they used the most up to date aseptic techniques within their enclosed biological hood. The test tubes were sealed with air tight caps. She had to agree with Ahmed that it was next to impossible to think that their experiment was tainted with a virus. So Sarah wasn't surprised with Ahmed's next comment. "You can't even be sure that this long DNA molecule is a virus. Maybe the DNA computer has produced this anomaly all on its own."

Sarah looked intensely at her father and remarked, "Ahmed has a good point. Maybe our computer just mixed up a bunch of DNA and produced what we see here. It only looks like a virus."

Dr. Stein shook his head indicating the negative. "Nonsense, that's not how we set up our controlled experiment. Both you and Ahmed programmed our DNA computer to use separate small DNA chains to interpret the test word we used."

Sarah was aware that a word code couldn't be changed into something that resembles a virus. They were trying to set up a means where their bio-molecular computer could be used to decipher encrypted messages. As a computer programmer she knew that all they were doing is allowing their nanocomputer to search all the possible arrangements of DNA base pairs in their test tube so it could decode the encrypted word used for their test. Therefore, she looked at her dad and said. "Dad, we have to be open minded here. We are

still only at the early experimental stage of trying to control how our coded input ends up as DNA output.”

Dr. Stein's stubbornness showed as he looked at the screen again. “It still looks like a virus to me”

Ahmed interrupted. "Does it really matter if we have contamination by a virus or a strange looking DNA molecule which might have been produced by our nanocomputer? The problem is that if we can't make this work, the institute will lose the grant money for this project.”

They all knew that the CIA was banking on this venture to be successful, as Dr. Stein said. “At this point we have to conclude that it must be accidental contamination. We must review our procedures and make sure this never occurs again. There is no need to document this in our official work up. After all, it's the first time we've seen any evidence of contamination. We've already had some success. So, let's just forget this and start over.”

Sarah couldn't accept what her father had just said, “Dad, we can't forget it. This is the CIA we're working with and our system has to be foolproof.”

Sarah knew there was nothing more to say as she saw that familiar stern look on her father's face. “Sarah, let it go. This project must move forward.”