

The Death of the Genetic Lottery

Since the dawn of time, few individuals have had the ability to revolutionize the world, so deeply in a given field, that their name has the ability to transcend any notion of time, or era. They irreversibly enter the book of “human greats” and join a minuscule subset of humans never to be forgotten by history. These were the Leonardo da Vinci’s, the Pablo Picasso’s, the Edward Jenner’s. I wanted to become one of them.

As I awoke, I could feel the warm Shanghai sun squeeze through my 4x20 inch transom window. The dilapidated building had not been renovated in years, and it showed. The epidermal layer of wall-paint had scabbed or fallen off well before I ever set foot in here. The rusty iron bars making up the outermost defense of my cell seemed like an ideal breeding ground for tetanus spores. The water arising from the sink chaotically sputtered in the same regularly irregular pattern as a sinus arrhythmia. Being in the Chinese equivalent of a “white-collar prison”, we all had our own cells, our own bathrooms, even our own TV’s. Yet, surrounded by these criminals, most of whom were not canny enough to embezzle money without being caught, gave me an overwhelming feeling of despair. From the people, to the place, to the establishment; everything around me exuded mediocrity, except for me.

To say the least, had I been asked two years ago, I would have never predicted the fated downfall which awaited me. Reminiscing the past on this hard, squeaky piece of foam they profess to be a bed pushed me to write my story; I want to illustrate on paper how a scientist revered all across southeast Asia ended up in prison for making perhaps the biggest scientific advancement of the 21st century.

For a decade or so, I had been exposed to the magical world of genetic engineering. After graduating from the Southern University of Science and Technology in China, I made the next logical move and packed everything up to relocate to the United States of America. Spending a total of 6 years in the United States, under the tutelage of some of the world’s greatest professors in the field allowed me to gain access to a rare amount of knowledge and experiences, but most of all, give me first-hand exposure.

I remember the first time I saw her. I had never seen anything like her. Her smell, her perfect shape, her literal ability to know me so well, base pair per base pair. She was beautiful. Though I knew that she was not a person, I also knew that I would treat her with the respect she deserved. With time, I got to know her. People called her CRISPR. She changed people like no one could, literally. People working around me saw her as a means to an end. They needed to mutate a cell, and she was always there to help. Nonetheless, it truly bothered me that they never grasped what she actually was. She was an unmatched piece of technology, able to break down a sentient, conscious, human being, into a genetic code - and change said composition of the individual. Just like a photo editing tool on photoshop, CRISPR had the ability to remove or modify aspects of DNA that did not operate in the way we wanted it to. It was the discovery of a generation, and yet, governments built obstacles disguised as “ethical limitations” and “administrative approvals” as a way to slow down incredible strides of innovation they could not understand.

I had gathered a hefty amount of expertise during my time in the soi-disant land of opportunity, and the communist government saw that. Consequently, they used a pretext called the “Thousand Talents Program” to lure me and others like me back to our birthplace. Though the aim was transparent - to use us to gain a technological, military and economic upper hand on the U.S - I did not care considering that this opportunity would allow me to build my own lab, with my own equipment, and of course, see *her* again.

Very quickly, I started moving at a pace of my own, orchestrating my lab as the symphonist and watching the melody come together in perfect harmony. Through the use of “Feng shui”, I optimized the space in the lab and ensured that every piece of equipment, furniture, or even decoration had a purpose. Very soon, word was out that I had built the Mecca of genetic engineering in southeast Asia.

Soon, the fame and reverence came alongside the rumors. Articles which read ‘He Jiankui: the founding father of third-generation genome editing’ were released alongside television recordings of conferences

I led. It was surreal, but even during my exponential rise to prominence, my focus was still rooted in my research.

One early morning in 2017, at 5:00 a.m. on the dot, I groggily stood up from my bed to search for my phone which had been ringing for half an hour. The screen had just gone dark. As I turned on the phone, I could see the 6 missed calls from none other than my research assistant. I proceeded to return his calls, at which point I awoke immediately. Zhang Renli, the man in question, had been calling me to inform me of a development in one of his projects. He had previously contacted 8 couples - all of whom had an HIV positive husband, and an HIV-negative wife - for a project we had been conducting. However, it had come to his attention that one of these couples was desperately wanting to have twin babies.

“So, what if we conceived the children in vitro, and mutated the HIV gene all together so the baby

would never have to worry about the virus?” my research assistant had asked of me.

I know what you are thinking. Crazy - right? I did too. Unfortunately, ignoring the request proved to be much harder than I initially thought. Even if I knew the possible repercussions of such an act, it would be the first, gene-edited human to ever come into existence. This would mean the start of a new era of gene editing.

I could not stop my mind from exploring the countless opportunities this key would unlock. Wiping out entire mutations, creating immunity to diseases, and modifying genetic abnormalities, the possibilities were endless. While I felt a nagging sensation that it could go very wrong, I disregarded it.

“We’ll start the IVF process next week,” I said. “If everything goes as planned, these embryos will become the first individuals to roam the earth with a genetically engineered resistance to HIV”.

I could not believe what I was saying. Yet, it was happening. Waking up the next day, I felt nauseous. I was unsure whether it was due to my lack of sleep or my increasing fear. As I sat alone at my kitchen counter, my restless leg mimicked the shaking in my hands as the tea cup I was holding clanged on the coaster below it. ‘This is it’ I thought.

Journeying to the lab that first morning felt like an endless drive with no destination. However, I finally arrived, and for the next few weeks, I came into the lab every day with one goal in mind. The process took around six weeks to complete, but in actuality, it felt like years. The final session following the insemination of the embryos in the mother felt like the biggest accomplishment of my life.

Day by day during the pregnancy, I gained more confidence vis-à-vis what I had done. While I had 9 months to prepare for the birth of children who would forever change the face of gene-editing, I had not given the world this long to prepare. So, when I announced the truth about Lulu and Nana on November 25th, 2018, a colossal wave of backlash poured over me and kept me down as it drowned me. This endeavor took everything from me. Sitting here, in a Shanghai prison a year and a half after I committed an action that would forever change my life brings me immense sadness. Sadness not for myself, but rather for the world. For I know that in a few centuries, people will look back to me as a modern-day Edward Jenner, who, similar to me, went against the human-made limitations of his time for the timeless progression of science. In a lot of ways, throughout the experiment, I saw myself up there with him, as individuals who took risks to change the course of scientific evolution. While the world may not see it this way right now, I know they will one day. In 2019, I was listed as one of the, 'Time's 100 most influential people'. As I await the rusty doors to swing wide open and for my freedom to be returned to me, I sit here, contemplating one question: 'Was it worth it?'