

Above the Basin

Vinay Gupta, May 20, 2010

The earth came into view at “sunrise,” porthole windows admitting more light in a semblance of normal day. The Hsien-Chen orbital platform housed 400 technicians and a handful of very rich old men and women with the rare diseases which light gravity environments helped.

Hsien-Chen is one of six currently active “star factories” as they are popularly called, manufacturing Q-sencom components: quantum sensor and communications equipment. I’m a project manager tasked with line oversight - small adjustments in kaizen and correct implementation of safety requirements. Such a lot of space is precision.

In the morning the workers - six month shifts every two years, to avoid gravity diseases and the associated lawsuits - begin their labors. We have four mornings every 24 hours, and I’m D-shift.

D-shift has a disease. It’s nothing serious, apparently, one of the light flus which sometimes circulate up here. We sterilize everything three times. Canned safety messages are played between video calls and movies, temperatures are measured every two hours, sick workers return to their quarters. We all wear masks. It’s not that uncommon but we all worry. Very rarely something mutates up here in the radiation and the immune system load... recirculated air, dead food, limited medical staff... we worry. Production is down a bit, but

compared to the staffing costs nobody on the ground cares. The lost production can be made up later, but prolonged illness is expensive.

After a few days, someone dies. He’s a new guy, this is only his third time in space, second work cycle after his training. At first we think it’s the illness turned nasty, that we have a plague. The other three shifts go from worried to paranoid, although we are all biosegregated as a matter of course. But the docs do the postmortem and it’s all-clear. Blood clot in the brain, chance occurrence, unrelated to the flu. We come out of our cabins and get back to things, those of us who are well, precautions still high.

Then three more die, in quick succession, over two days. Everything is completely locked down, production on D-shift ceases. A, B and C take up the slack and lengthen their days and take over our share of ship operations. It does not help that I knew one of the men somewhat, we had spent time together on the ground when we both lived in Beijing one summer. I began to tell my friends and family on the ground not to worry, and the company’s psychologists and councilors started to survey the crew for signs of stress. We sit huddled in our cabins chatting with our families and each other, or playing games, all completely alone. The robots deliver food.

People continue to die of blood clots, five in two weeks, and some of those who originally got sick recover. We assume them to be immune but do not return them to duties - they are

trained on how to operate the medical bays and given recertification in essential maintenance functions just in case.

Then nobody else dies for a few days and we continue to recover. Things start to feel almost normal - the medical team catalogues samples and they are sent to the ground with the next cargo in a secure container. One more person has a non-fatal clotting incident, but the ship's doctors are able to save him because they know what to expect.

It has passed, and we hold a funeral. The bodies are in cold storage, but we send various standard issue personal effects into the incinerator in "coffins" and watch on cameras, standing in the mess hall in our surgical masks.

The news from the ground comes in. They've given the virus a name, it's something found on the ground occasionally but it's not that dangerous down there. We have lost 11 men to discover that a harmless snuffle turns lethal in space for reasons nobody really understands. It is not satisfying or complete, but we no longer worry about being asked to say goodbye to our families and then being euthanized en-masse by fatal gas if we have contracted something which cannot be cured which presents a danger to the other shifts or, worse, our families on the ground.

I did not want to come to space. But with my skills and personality profiling, with my family background and physical frame - almost exactly average height and build, stable-yet-optimistic perspective, patient and enduring of difficulties, there was an opportunity to do well, well enough to afford to live in

one of the cities for generations on what I might earn in a single working lifetime.

I talked to my wife as things got back to normal. She was very relieved too, although had I died we both knew the life insurance policies would have amply looked after her and our child and our long-unborn grandchildren.

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I stopped colleague Yuan in a gangway. He looked ill. Pale, eyes slightly moist and yellow, lips dry and chapped. It was nothing unusual, but they isolated him for three days. I felt foolish.

At the end of our tour, when we returned to the terrestrial factories and worked on other parts of the production cycle, acquired further training, it took me some time to adjust. It was different: I had never faced a serious safety incident in space before.

They do not send people without families on the ground into space for production jobs because they do not take safety so seriously. "You must have somebody to come home to if you wish to see the stars!" as they say in the crew selection process. Sometimes I wonder if we stay together partly to protect my clearance for the orbital seasons, but once I return to our apartment, I know that is not true.

I will not tell my daughter to follow my footsteps and go into work above the earth. Perhaps by her time it will all be easier.

But as I think about how we felt, bravely facing the possibility that we would all die just a few dozen miles above our homeland, of a disease which might never be identified or cured, I wish for a better life for her.

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I am visiting our grandmother. She is my wife's mother, and is in her eighties. Our daughter has her name, and many of her characteristics, we think. It is hard to see the traits of a seven year old and an old, old woman with the same eye, but there is a love of color and music which neither my wife nor I share with these two, and it is a delight to watch them play in the fields and talk about the skies.

My wife says that I have aged well, and that my time in orbit has been good for me. I still occasionally have nightmares about the incident, but my superiors in the company assessed the reports about my performance and the psychological reports and promoted me, saying "you displayed a calm and reasonable temperament and would have handled a more severe crisis very well." So, for us at least, some good has come of it. They now give a vaccine for the disease and it has become a minor profit center for one of our associated companies, although the total market is only a few thousand doses per year and the risk is very small even to those unvaccinated. It is not a common infection.

We return to the apartment and my daughter asks to be shown where our factories are in the skies. I show her in the evening:

the stars are much brighter here than at our home, and the factories are easily visible.

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I have just given the order to scuttle an orbital factory. I am fifty five, now. I have spent my entire career in space, first as a manager of the lines in orbit in our sencom unit, then on the ground as a senior trainer and strategist. My unit has been tasked with handling emergency incidents in the factories for two years since the last reorganization, when the board separated the engineering and safety units because most of our problems with safety were now caused by staffing issues as the factory assembly and operations have become routine at a technical level.

A nightmare scenario has unfolded overhead. Many, many crew are dead and others are dying, and there is substantial fear that infectious material could survive a re-entry if the orbital is not stabilized. To secure the situation we must turn off life support, allow the unit to freeze solid, and then safely destroy it. Although we all knew what had to be done three days ago, and the preparations are complete, I am the one who has had to officially make the decision.

I have done my duty to my comrades, the men and women dying above us now, and to the people of the world in acting responsibly in this crisis. My daughter is not among the crew involved, she is on a ground rotation. I have never been more

grateful for an accident of scheduling - had this happened four months ago, she would have been up there.

I do not expect to sleep at night for several days, but the company doctors assure me that this is normal, that they are here to support us, and that in the long run my responsibility is unlikely to have clinical implications. "It is not easy to weather these storms, but it is what leaders have done throughout history" they tell me.

I do not like their attitudes at times, but they are right in most things. They have the data to prove it.

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I have retired. My wife and I separated five years ago following our daughter's accident. She has recovered, but the stressful period of not knowing whether she would live or die broke our youthful hearts.

But my wife and I have come to be friends again and see each other most days, sometimes just for tea. Our daughter is married and no longer walks with a stick, and the limp is slight. Her daughter dances and sings beautifully, and to the relief of our family, has little interest in space or engineering.

I have not recovered from the accident which ended my career. Although I performed admirably, I did not pass the next battery of psychological tests and was offered early retirement. It was not a shameful event and I was treated with dignity, although

perhaps some of my superiors wished I had gone further and perhaps one day joined the board of the company.

But I have many years ahead of me and little care now, and I will not again order good men and women killed to protect others. In my heart I had decided that I wanted no more responsibilities like this, and perhaps the company's doctors, with all their tests and moral questions, realized that. When I discussed my career options with my superiors, after failing that psychological battery, they said with a little sadness that I had become too philosophical for commerce, but that if I wished to take up teaching our junior executives, they would gladly find me a position in our sister organization. It was a rare offer, and one that it took me six months to reject. By then I was already living here in the country and breathing the green air every morning and evening. I had rediscovered birdsong.

I chose to retire here, where my wife's mother had lived, where I spent many happy weekends when I was younger, and to fill her shoes as the old person that the young visit in the country.

I do not dream either of the ones who died when I was in space, or those that died when the terrible disease spread so fast in our factory. The only face that disturbs my sleep is my daughter after the car hit her, covered with tubes and bandages in the hospital, and the waiting. But I know that she is well now, and I rest easy.