

# CHAPTER ONE

## HARVEST TIME

### *The year 2020*

“Procreation is divorced from sex,” said Debbie, Rachael’s best friend and college roommate. Debbie was the virgin-queen bee of promiscuous conception.

She reached for the New Haven Examiner that had been tossed on the coffee table and shook it in Rachael’s face, pointing at the ad that had sparked her comment. “They’re offering more than three times what my dad makes in a year, Rachael! I could drop out of ROTC and pay Yale’s tuition on my own. Do you know what that kind of financial freedom would mean?” Debbie had explained to Rachael that college and medical school combined would keep her in military indentured servitude until the age of 38. She would have to find a husband in the Air Force.

It was a rainy, late-spring afternoon in New Haven and the girls were taking a break from studying for exams. They sat side by side on the couch in their dorm room. A large poster of the Dalai Lama was taped to the wall behind them, the caption reading: *Be kind whenever possible. It is always possible.*

Rachael struggled to find the right reaction. The ad had been posted by a Hong Kong-based fertility company seeking egg donors. They offered payment of up to \$100,000.

The egg-donation business, in general, frowned upon such high prices, concerned that it was promoting eugenics, but it was still legal in the United States. Yale students were allowed to

donate eggs at the school clinic, but there the prices ranged from \$5000 to \$10,000. Certainly, other students like Debbie went the high price route but nobody talked about it.

The idea of designer babies was foreign to Rachael. Of course, the science for it wasn't particularly new but there was still some stigma against it. That applied to the parents; she'd never considered the donor aspect.

Debbie frowned, apparently interpreting Rachael's silence as disapproval. "You're lucky your mom is rich. You don't know what it's like to grow up dirt poor." She pulled the newspaper closer to read it again, her eyes shining with optimism.

Sighing, Rachael shook her head. She didn't feel particularly lucky compared to Debbie. Yes, Debbie had grown up poor but she was five feet ten and had long blond hair. She also had a natural leanness that made her every movement seem like a dance step. *One-hundred-thousand dollars would be a small amount for someone rich to pay to try to have children as smart and as good looking as Debbie.*

Rachael fought down the jealousy. She was ten inches shorter than her gorgeous friend, hated her own stringy brown hair, and had to study harder to just maintain good grades, but she was still on the path to achieving her dream of attending Cornell Veterinary School and becoming a world-renowned equine veterinarian. It was hard enough to get into one of the limited number of veterinary schools in the U.S., but Cornell's had just been ranked at the top of the list.

One of the reasons that Rachael and Debbie got along so well was because they had long ago decided that their careers would be in medicine and that boys could be nothing but a huge distraction from their ambitions. Rachael's free time was spent with horses, including racing and

jumping with them, horseback riflery, and even polo. Debbie came out to her competitions and tried a little horseback riding when she didn't have school or ROTC commitments.

Rachael found her envy of Debbie easy to ignore when she thought about the clothes Debbie wore; Salvation Army and Goodwill were the only places her poor friend could afford to shop. Tonight, she wore a loose T-shirt that read "5th Annual ShamRock & Roll 5K" and jeans that were for someone three inches shorter than she. Rachael had offered to take Debbie shopping, but Debbie insisted that she didn't mind her ill-fitting wardrobe. Debbie didn't even seem aware of how beautiful she was.

Rachael placed a light hand on Debbie's arm to get her attention. "I'm sorry if I seem unsupportive. You just caught me by surprise! I think it's a great way to make money. Are you already working out the details?" Rachael had seen the date on the student newspaper. It was a month old. For whatever reason, Debbie had decided to wait that long to tell Rachael about her interest in donating eggs, but Rachael would do her best to be a good friend now.

Debbie blushed. "Well, yes. I talked with Isaac, whose former roommate is now a contract lawyer. The two of them reviewed the contract details and said they seemed very standard." She pointed to the ad again. "The Assisted Reproduction Center in Hong Kong has a stellar reputation."

Rachael nodded enthusiastically. Isaac was Debbie's attractive older brother—well, one of them. Debbie was eighth of nine children in a very conservative Christian family. Rachael wondered if Debbie's parents knew about the egg donation or what they would think, but now was the time for support, not criticism.

"How soon are you thinking about donating?" Rachael said. "I know you have to have injections before—"

Debbie transformed from embarrassed to animated. “They’ll be sending the FSH—the follicle stimulating hormones—in a month. I inject myself, and then Isaac and I fly to China—the company will pay for both of us—as soon as finals are over for the harvesting! The eggs get fertilized by the father’s sperm while we spend some of the money traveling through China, maybe Japan and Southeast Asia, too.” She clutched her friend’s hands. “I’ve never been anywhere before. I’m so excited.”

Rachael beamed at Debbie’s fast-paced explanation even while feeling stirrings of confusion and disappointment. Only one month until she took the injections? That was way sooner than Rachael had expected. She had clearly been planning all of this over the past month.

Earlier, Debbie had told her she was planning to do an internship at Johns Hopkins over the summer. Had that plan now been thrown out the window? But she couldn’t fault her friend who had a chance for some real money for the first time in her life.

“I’m glad Isaac is going with you to support you. I only wish I could too!” This summer, like the one before it, would be spent at her hometown’s horse farm where Rachael planned to spend all day, every day, doing what she loved—taking care of horses—under the mentorship of the best veterinarian in the south: Patty Spring.

Reading the expression on her friend’s face, Debbie gave Rachael a hug. “I’m sorry for not telling you sooner, Rache. I barely worked up the guts to tell my parents. That actually went a lot better than I expected because the Bible has nothing to say on the subject. How could it have thousands of years ago? The primary question is the dignity of the human being—the rights of the child as a human being. I basically argued that anyone willing to pay \$100,000 was not engaging in child trafficking—they just really badly want a baby. Whatever child is created from this process would likely have *more* resources than the usual unplanned pregnancy.”

“That’s the same as IVF. Doesn’t egg donation make you a third party in another couple’s relationship? What about the sacredness of the marital bond?” Rachael tried to sound light and nonjudgmental. Rachael believed in kindness to all and was fascinated by how a devout Christian might rationalize egg donation.

Debbie didn’t act as if she felt threatened. She had clearly thought through this line of questioning before. “You mean like versus adoption? Is it better that neither parent has a direct biological attachment to the child than one parent having one? Why is biological attachment even a thing? Just because people don’t want to play wildcard with their offspring. They want someone safe, like me—smart, healthy, good looking, nice. There’s really no downside. I only give up one cycle of eggs while my donation allows a family to have a child with the genes of one parent. How could that be a bad thing?”

Rachael looked hard at her friend who seemed to be justifying her decision. “Okay; what about this? I’ve read that some religions think that normal sexual reproduction between a man and a woman who are in love attracts a higher soul. Did you consider that?”

Debbie shrugged. “Not my problem. But from the family’s perspective, some DNA being passed down to their offspring is an improvement over nothing being passed, so I think God would be pleased with that.” She looked at the ad again, then at Rachael. “Look, let’s not tell our classmates what I’m doing. You’re my best friend and I trust you but let’s keep this a secret.”

“Of course, Debbie. I’m excited for you. I won’t tell anyone. This is your news to share when and if you want.”

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A month later when the medication arrived, Rachael was the one who put it in the fridge while Debbie was in class. Rachael was the one to inject an empty syringe into her own abdomen to

prove to Debbie that it wasn't painful. Rachael got heat packs to help with Debbie's increasing bloat that followed the injections.

And then finals were over, and Rachael was hugging Debbie goodbye. They would reconnect when Debbie returned from Asia.

Rachael headed home to Louisville, Kentucky, where her mom, a respected anesthesiologist, lived in the house where Rachael had been raised. Rachael and her mother were very close, and knowing her mother's interest in medical ethics, she broached Debbie's situation in general terms over breakfast on her first morning home.

The kitchen of their ranch home was well lit, with both skylights and large windows on the east wall. Her mother stood at the granite island, spooning oatmeal into her mouth, while Rachael poked at her tofu scramble. She was going through a vegan phase of which her mother disapproved.

"Mom, what do you think about sperm and egg donation?"

Her mom cocked her head. "I think it's great. Infertility is a terrible thing. If one partner can't reproduce but the other can, they can both love the child. I think it should be done anonymously, though, but parents should eventually let their children know. These are the real concerns. Are you thinking of donating?" She lifted an eyebrow. "Speaking of eggs, they are perfectly healthy to eat."

Rachael took an extra big bite of tofu and closed her eyes in dramatic enjoyment. That would be enough of an answer to her mom's barb. "Mom, no one would want my eggs, not with Tay-Sachs on your side and cystic fibrosis on dad's."

To Rachael's surprise, her mom teared up a bit. "Yes, I suppose you're right. You wouldn't make money by donating your eggs." She wiped her eyes.

Rachael wrapped her arms around her mom and rested her head on her mother's shoulder. "Why does this make you sad?"

Her mom gave Rachael a brief side hug. "If we had had all this technology when I was young, my life would be so different. You don't know how lucky you are."

Three of her mother's siblings had died from Tay-Sachs disease as infants. Her mother had been her grandparents' fourth and final try at having children, and thankfully she had been healthy. Even though she had no recollection of her lost siblings, their deaths had traumatized her own mother so she decided to never marry a Jew for whom Tay-Sachs was a common genetic disorder. This announcement was a blow to Rachael's grandfather, a prominent and talented rabbi who had brought many Jews back to real faith in God. Before he and Rachael's mother could reconcile, her parents died in a car accident. As a result, Rachael's mother spent every Yom Kippur in her room, crying and remembering her parents.

"Oh, Mom." Rachael gave her a long hug. She felt her mom's sobs against her shoulder. "I'm sorry I upset you. I love you, Mom. Thank you for having me."

Her mom stepped back and held Rachael at arm's length, smiling despite her red, wet eyes. "Thank you, Rachael. You are very kind. It's your best quality. Forget everything else. Be kind to people."

She wiped her eyes and blew her nose into a napkin before shooping Rachael back to her chaise. "If you want, I'd be willing to pay for you to freeze some eggs. That way you can focus on school and your career and not worry about finding the right man. You can wait to have children until you are ready, and your eggs will be protected from any future disasters, God forbid."

Rachael frowned, considering the offer. “Companies in Silicon Valley are now covering their employees’ costs for doing that.” She’d read about it online. Egg extraction and freezing cost about \$10,000 a round, including storage fees.

Her mother nodded. “As well they should. But you won’t be going to Silicon Valley. I have the money saved up. Just say ‘Yes’ to ease an old mother’s worry.”

With a smile, Rachael popped another bite of tofu into her mouth. “Anything for you, Mom.” It seemed like a foolproof plan, anyway.

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### ***Three years later***

Debbie and Rachael were once again sitting on their couch, taking a break from studying for their last finals at Yale. They’d grown apart a bit over the years, but school had always remained a priority to both of them. Debbie had never really shared any details with Rachael about her egg-donation experience in China, or the other donations she had made over the past two summers. Rachael, not wanting to pry, had pretended that nothing was wrong.

But Debbie was changing. A new poster joined the one of the Dalai Lama on their wall. This one was a photo of Mark Twain over the caption: *The lack of money is the root of all evil.* Debbie had hung it up at the beginning of the fall semester. Rachael complained about it but Debbie insisted. She was tired of the Dalai Lama. This was their compromise.

Rachael sighed as she flopped back on the couch. “Why are we even studying for finals, Debs?” They had received their acceptance letters the day before. Debbie had gotten into Harvard Medical School and Rachael had been accepted to Cornell. They had celebrated the previous night although the girls never drank much.

Debbie didn't seem to hear her friend's questions as she scrolled through something on her phone. Her Salvation Army shirt and jeans had been replaced, thanks to her first egg donation, with fitted blouses and high-end skinny jeans. She looked up at Rachael, her eyes blank. "I'm not going to med school. I got high-paying work at a modeling agency in New York City. I have a rich boyfriend there, too. I'm moving in with him after graduation."

Rachael's jaw hit the floor. The changes in Debbie over the past few years began to make sense. "Modeling? A boyfriend? Is that why you've been traveling to New York every weekend? Why didn't you say anything? And why did you spend all those late-night sessions with me to help me get good grades? What about the military career? What about finding your future husband in the Air Force?"

With a wave of her hand, Debbie swept away Rachael's stream of questions. "I don't need the money. I can do what the fuck I want, and I want to model and fuck my boyfriend."

Rachael covered a gasp with a cough. Debbie never swore! Before she could talk herself out of saying anything, Rachael voiced her growing concerns about her roommate. "Debbie, you've changed. I don't know when you last went to church, and you never volunteer at the animal shelter with me anymore. You've changed from the happy, bright Debbie I knew to—I don't know—abrupt, matter-of-fact Debbie. It's as if nothing really matters that much to you any more except continuing to make money. What's going on?"

Debbie put her phone down and studied Rachael while absently twirling a lock of her long blond hair. "Rache, do you remember asking me about 'attracting a higher soul'? About how some religions thought sex between loving partners attracted a higher soul than a test-tube conception? Well, I looked into it. Do you want to know what I found?"

Disturbed by her friend's nonchalance, Rachael wanted to say no but reminded herself that she had opened this can of worms. "Sure, tell me."

"Let's start with understanding what I've done. I've donated eggs three times. I'm 21 and I've had a statistical nine children—even while I was still a virgin and on birth control."

*Promiscuous conception*, Rachael thought.

"A 'statistical nine children?'"

"Well, each round of follicle stimulation produces about 15 eggs, though of course it varies depending on the age and lifestyle of the donor. Of those eggs, 60–80 percent are mature, or ready to be fertilized. Those mature eggs are what my customer pays for. What happens after that, I don't know. For my first round, they retrieved 23 eggs, 15 of which were mature."

Rachael clenched her jaw to keep her mouth from falling open in shock. *On top of everything else, she's super fertile! It took me three rounds just to get as many as she got in one.* She inhaled deeply. *Fight the jealousy with kindness.* "Wow, that's great news."

"The mature eggs are then mixed with a batch of sperm. Of the ones that fertilize, about 40 percent will be genetically defective, which can be identified by chromosomal screening. After five days, let's say we have five viable zygotes.

"The parents take their pick of the healthiest zygotes from genetic testing and implant them one at a time, maybe two at a time. Depending on the mother's uterus quality and some other complicated medical and genetic factors, supposedly about half of these stick and survive to term. I figure I'm good for about three healthy babies per round, which is all future parents really need."

Rachael nodded, following Debbie's math. "So, you've donated three times for three children each time."

Debbie frowned. “But back to the higher soul business. First, we have to talk about the concept of ‘soul investiture,’ the religious notion that a soul inhabits the body, and that there is a point in time when a piece of the spiritual world comes to dwell inside us physically, maybe in the brain somewhere.”

Rachael nodded again. “Right, and different religions have different answers as to when the soul enters. Some say at conception. Others say birth, and others say somewhere in between.”

“Exactly. This debate got me nowhere, so I looked harder into the science of it all. We have a very clear understanding of every point in time in the creation of a human life—the process of conception and the details of pregnancy.

“In the past, a woman ovulated an egg once a month. Egg quality deteriorates over time until menopause. Older women generate more defective eggs, so miscarriage occurrence jumps dramatically over the age 40. There’s a natural genetic function that causes fertilized eggs that are unhealthy to abort. A disease like Down Syndrome is viewed as a genetic defect that survives the womb’s normal attempt to reject zygote-chromosome abnormalities. The lifestyle of the mother, as I mentioned, can also affect miscarriage rates.”

“I’m following.”

“It gets even more complicated. Bring in artificial wombs. Right now, a baby less than 21-weeks old is not viable outside the womb. At 22 weeks there is some viability, which increases all the way up to 40 weeks—”

Rachael held up a hand. “Debbie, what new conclusion have you reached? You are getting paid for your valuable eggs. There are going to be nine lucky children out there with half of your incredible genetics and with parents who truly wanted them. All these numbers and

statistics can drive anyone crazy. Is it soul investiture that bothers you? What does any of this mean to you?"

Debbie stared off into the distance. "A zygote or fetus or baby or whatever-you-want-to-call-it exists almost like quantum physics."

*Each fertilized egg exists as potential?* "I wasn't expecting that answer," Rachael replied slowly.

Debbie focused her piercing blue eyes on her. "We're just a bunch of chemical reactions, mostly based on electron transfers. We learned this. There is no soul. Religion is just a way for people to band together and support each other as a macroorganism with agreed-upon standards of conduct. The universe is cruel; our God, Darwinian chaos. Human life runs a long gauntlet, from conception to 18 years of age, cut down by countless diseases from birth onwards. Then, upon reaching 18 there's a mad rush to mate before being sent off to fight a war for old men. The losing women are enslaved and the men killed. The concept of a soul was invented from pure ego, just a desire to think our fragile lives matter beyond our short scope of suffering."

Rachael thought she would be happy that Debbie gave up her belief in God and the supernatural in favor of logic, but she found herself feeling the exact opposite. As Debbie had distanced herself from Christianity, she had also distanced herself from kindness. Not that she had become cruel but she wasn't the same nice Debbie who had introduced herself to Rachael during their freshman year.

Rachael scooped over to give Debbie a side hug. *Kindness first, always.* She changed the subject.

“Tell me more about your egg recipients. You went to Hong Kong, for one. I’ve always wondered what type of people have the money for eggs like yours.” She said it with a kind, almost envious smile that she knew Debbie would appreciate.

On cue, Debbie brightened up and smiled. “They were ethnic Chinese. I was surprised that they wanted a child with a white woman. Maybe they do a lot of business with America. They interviewed me quite a bit on the phone before executing the contract. I’ve never met them face-to-face but I’ll have two or three children of mixed-Chinese heritage growing up with rich parents.

“The next client was a single guy from Seattle. A successful software developer; I found his company online. He said he was a confirmed bachelor. He didn’t want to get married or cohabit but still wanted a child. He was going to hire people to help with the child-rearing. He was nice and sort of average looking. I didn’t pry into his personal life.”

When Debbie didn’t continue, Rachael gently prompted her. “And the third?”

“Gay-male married couple in their 40s from Cupertino. Very nice, very professional. Said they wanted to settle down. They had more money than they knew what to do with. One of them was sick of work and was preparing to parent full time.”

She turned to face Rachael with a curious, almost secretive look. “Do you mind me asking about your egg harvest? You never told me your results.”

Rachael felt herself close up, but Debbie had just opened up to her so she felt that she couldn’t withhold from her. She had told Debbie about her mom’s offer to pay for egg freezing while Debbie was traveling throughout Asia, but Debbie had never asked anything else about it. Rachael had done the egg retrievals during the summers at the same time that Debbie was doing her egg donations. The difference in their results made Rachael feel embarrassed.

“I got 18 mature eggs. They’re now frozen at a clinic in Louisville.”

Debbie nodded. “Well, that’s good. You just need one good egg to have a child. You produced at peak fertility for women. Save those healthy eggs for the right guy.”

“I just don’t know how many eggs have recessive Tay-Sachs or cystic fibrosis mutations.” Rachael shrugged, trying not to betray how much that worried her.

“Don’t marry Jewish or Irish, then,” Debbie said. “Say . . .” She cocked her head. “Is that why I’ve only seen you with Asian men?”

Rachael blushed and looked down. “Yes, it’s what my mom recommended. She didn’t marry Jewish but instead married an Irishman with history of CF. She told me ‘The more non-white, the better.’”

“Rachael, I know you. You’re hiding something from me.”

A surge of anger coursed through Rachael. *Hiding something? Who didn’t tell her best friend about her modeling ambitions and her boyfriend? And isn’t it clear I’m afraid of birthing an unhealthy child? Do I have to spell it out for her?*

But Debbie had already figured it out. “You don’t want an unhealthy child. It’s not an irrational fear. Rachael, they can reduce the zygotes with Tay-Sachs and cystic fibrosis now with genetic testing. Just have IVF and stay on the IUD until you want to get pregnant. You don’t have to worry.”

“‘Reduce?’ You mean abort? Destroy?”

Debbie seemed to sense Rachael’s fragility, and she spoke more gently. “I think only the Catholic religion has a problem with the disposing of a zygote. They are out of touch with their constituents in this matter, but I doubt you care about getting the Pope’s permission.”

Rachael didn't care about anything the Pope said or did but the idea of killing her zygotes, even if they were carriers of Tay-Sachs or CF, made her uncomfortable.

"Science saves us a lot of trouble. Instead of timing sex during ovulation and filtering out the bad zygotes each month naturally, you jump to the healthy zygote and implant it. You don't have to be afraid." Debbie seemed satisfied about this pronouncement. Rachael was, at least, glad that her friend was trying to comfort her.

She gave a weak smile. "So, what would you call my fear? Fear of negative homozygosity? Hypochondria is fear of your own potential disease. What is the fear of your children getting a genetic disease from you? Parenhomochondria?"

Debbie smirked and pulled out her phone. "Let me check the Internet. There's 'nosophobia,' fear of getting a disease, and 'pedophobia,' fear of children . . ."

Rachael giggled. "So, I suffer from homohyponosopedophobia – the fear of my potential disease resulting in negative homozygosity causing a disease in my future child?"

The girls laughed together. Rachael was glad to see Debbie closer to her natural, happy self again.