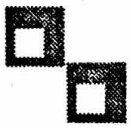

Prologue

A Glimpse of Things to Come

DATELINE BOSTON: JUNE 1, 2010

Sometime in the not-so-distant future, you may visit the maternity ward at a major university hospital to see the newborn child or grandchild of a close friend. The new mother, let's call her Barbara, seems very much at peace with the world, sitting in a chair quietly nursing her baby, Max. Her labor was—in the parlance of her doctor—"uneventful," and she is looking forward to raising her first child. You decide to make pleasant conversation by asking Barbara whether she knew in advance that her baby was going to be a boy. In your mind, it seems like a perfectly reasonable question since doctors have long given prospective parents the option of learning the sex of their child-to-be many months before the predicted date of birth. But Barbara seems taken aback by the question. "Of course I knew that Max would be a boy," she tells you. "My husband Dan and I chose him from the embryos we made. And when I'm ready to go through this again, I'll choose a girl to be my second child. An older son and a younger daughter—a perfect family."

Now, it's your turn to be taken aback. "You made a conscious choice to have a boy rather than a girl?" you ask.

"Absolutely!" Barbara answers. "And while I was at it, I made sure that Max wouldn't turn out to be fat like my brother Tom or addicted to alcohol like Dan's sister Karen. It's not that I'm personally biased or anything," Barbara continues defensively. "I just wanted to make sure that Max would have the greatest chance for achieving success. Being overweight or alcoholic would clearly be a handicap."

You look down in wonderment at the little baby boy destined to be moderate in both size and drinking habits.

Max has fallen asleep in Barbara's arms, and she places him gently in his bassinet. He wears a contented smile, which evokes a similar smile from his mother. Barbara feels the urge to stretch her legs and asks whether you'd like to meet some of the new friends she's made during her brief stay at the hospital. You nod, and the two of you walk into the room next door where a thirty-five-year old woman named Cheryl is resting after giving birth to a nine-pound baby girl named Rebecca.

Barbara introduces you to Cheryl as well as a second woman named Madelaine, who stands by the bed holding Cheryl's hand. Little Rebecca is lying under the gaze of both Cheryl and Madelaine. "She really does look like both of her mothers, doesn't she?" Barbara asks you.

Now you're really confused. You glance at Barbara and whisper, "Both mothers?"

Barbara takes you aside to explain. "Yes. You see Cheryl and Madelaine have been living together for eight years. They got married in Hawaii soon after it became legal there, and like most married couples, they wanted to bring a child into the world with a combination of both of their bloodlines. With the reproductive technologies available today, they were able to fulfill their dreams."

You look across the room at the happy little nuclear family—Cheryl, Madelaine, and baby Rebecca—and wonder how the hospital plans to fill out the birth certificate.

DATELINE SEATTLE: MARCH 15, 2050

You are now forty years older and much wiser to the ways of the modern world. Once again, you journey forth to the maternity ward. This time, it's your own granddaughter Melissa who is in labor. Melissa is determined to experience natural childbirth and has refused all offers of anesthetics or painkillers. But she needs something to lift her spirits so that she can continue on through the waves of pain. "Let me see her pictures again," she implores her husband Curtis as the latest contraction sweeps through her body. Curtis picks the photo album off the table and opens it to face his wife. She looks up at the computer-generated picture of a five-year-old girl with wavy brown hair, hazel eyes, and a round face. Curtis turns the page, and Melissa gazes at an older version of the same child: a smiling sixteen-year-old who is 5 feet, 5 inches tall with a pretty face. Melissa smiles back at the future picture of her yet-to-be-born child and braces for another contraction.

There is something unseen in the picture of their child-to-be that provides even greater comfort to Melissa and Curtis. It is the submicroscopic piece of DNA—an extra gene—that will be present in every cell of her body. This special gene will provide her with lifelong resistance to infection by the virus that causes AIDS, a virus that has evolved to be ever more virulent since its explosion across the landscape of humanity seventy years earlier. After years of research by thousands of scientists, no cure for the awful disease has been found, and the only absolute protection comes from the insertion of a resistance gene into the single-cell embryo within twenty-four hours after conception. Ensconced in its chromosomal home, the AIDS resistance gene will be copied over and over again into every one of the trillions of cells that make up the human body, each of which will have its own personal barrier to infection by the AIDS-causing virus HIV. Melissa and Curtis feel lucky indeed to have the financial wherewithal needed to endow all of their

children with this protective agent. Other, less well-off American families cannot afford this luxury.

Outside Melissa's room, Jennifer, another expectant mother, is anxiously pacing the hall. She has just arrived at the hospital and her contractions are still far apart. But, unlike Melissa, Jennifer has no need for a computer printout to show her what her child-to-be will look like as a young girl or teenager. She already has thousands of pictures that show her future daughter's likeness, and they're all real, not virtual. For the fetus inside Jennifer is her identical twin sister—her clone—who will be born thirty-six years after she and Jennifer were both conceived within the same single-cell embryo. As Jennifer's daughter grows up, she will constantly behold a glimpse of the future simply by looking at her mother's photo album and her mother.

DATELINE U.S.A.: MAY 15, 2350

It is now three hundred years later and although you are long since gone, a number of your great-great-great-great-great-great-great-great-great-great-grandchildren are now alive, mostly unbeknownst to one another. The United States of America still exists, but it is a different place from the one familiar to you. The most striking difference is that the extreme polarization of society that began during the 1980s has now reached its logical conclusion, with all people belonging to one of two classes. The people of one class are referred to as *Naturals,* while those in the second class are called the *Gene-enriched* or simply the *GenRich.*

These new classes of society cut across what used to be traditional racial and ethnic lines. In fact, so much mixing has occurred during the last three hundred years that sharp divisions according to race—black versus white versus Asian—no longer exist. Instead, the American populace has finally become the racial melting pot that earlier leaders had long hoped for. The skin color of Americans comes in all shades from African brown to Scandinavian pink, and traditional Asian facial features