

MORE PRAISE FOR

The IMMORTAL LIFE of HENRIETTA LACKS

“No one can say exactly where Henrietta Lacks is buried: during the many years Rebecca Skloot

spent working on this book, even Lacks’s hometown of Clover, Virginia, disappeared. But that did

not stop Skloot in her quest to exhume, and resurrect, the story of her heroine and her family. What

this important, invigorating book lays bare is how easily science can do wrong, especially to the

poor. The issues evoked here are giant: who owns our bodies, the use and misuse of medical

authority, the unhealed wounds of slavery ... and Skloot, with clarity and compassion, helps us

take the long view. **This is exactly the sort of story that books were made to tell—thorough,**

detailed, quietly passionate, and full of revelation.”

—**TED CONOVER**, author of *Newjack* and *The Routes of Man*

“It’s extremely rare when a reporter’s passion finds its match in a story. Rarer still when the people

in that story courageously join that reporter in the search for what we most need to know about

ourselves. When this occurs with a moral journalist who is also a true writer—a human being with

a heart capable of holding all of life’s damage and joy—the stars have aligned. **This is an**

extraordinary gift of a book, beautiful and devastating—a work of outstanding literary

reportage. Read it! It’s the best you will find in many, many years.”

—**ADRIAN NICOLE LEBLANC**, author of *Random Family*

“*The Immortal Life of Henrietta Lacks* brings to mind the work of Philip K. Dick and Edgar Allan

Poe. But this tale is true. Rebecca Skloot explores the racism and greed, the idealism and faith in

science that helped to save thousands of lives but nearly destroyed a family.

This is an

extraordinary book, haunting and beautifully told.”

—**ERIC SCHLOSSER**, author of *Fast Food Nation*

“Rebecca Skloot has written a marvelous book so original that it defies easy description. She traces

the surreal journey that a tiny patch of cells belonging to Henrietta Lacks’s body took to the

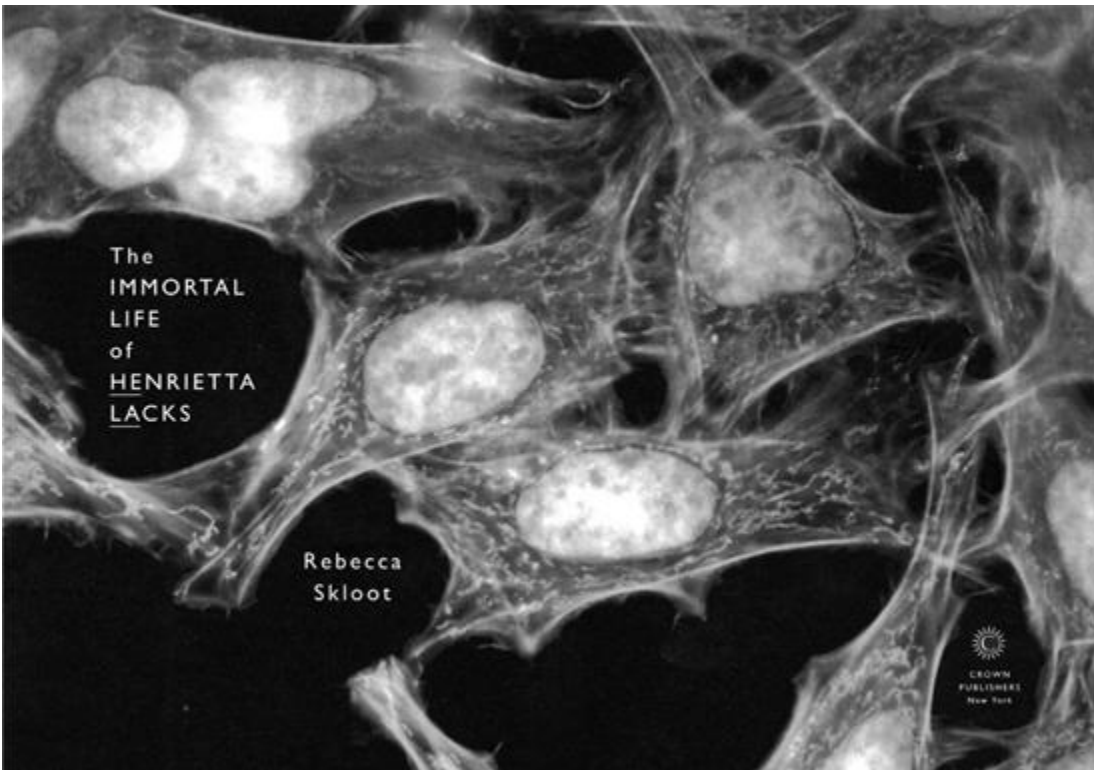
forefront of science. At the same time, she tells the story of Lacks and her family—wrestling the

storms of the late twentieth century in America—with rich detail, wit, and humanity. The more we

read, the more we realize that these are not two separate stories, but one tapestry. **It’s part *The***

***Wire*, part *The Lives of the Cell*, and all fascinating.”**

—**CARL ZIMMER**, author of *Microcosm*



For my family:

My parents, Betsy and Floyd; their spouses, Terry and Beverly;
my brother and sister-in-law, Matt and Renee;
and my wonderful nephews, Nick and Justin.

They all did without me for far too long because of this book,
but never stopped believing in it, or me.

And in loving memory of my grandfather,
James Robert Lee (1912–2003),
who treasured books more than anyone I've known.

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A Few Words About This Book

This is a work of nonfiction. No names have been changed, no characters invented, no events fabricated. While writing this book, I conducted more than a thousand hours of interviews with family and friends of Henrietta Lacks, as well as with lawyers, ethicists, scientists, and journalists who've written about the Lacks family. I also relied on extensive archival photos and documents, scientific and historical research, and the personal journals of Henrietta's daughter, Deborah Lacks.

I've done my best to capture the language with which each person spoke

and wrote: dialogue appears in native dialects; passages from diaries and other personal writings are quoted exactly as written. As one of Henrietta's relatives said to me, "If you pretty up how people spoke and change the things they said, that's dishonest. It's taking away their lives, their experiences, and their selves." In many places I've adopted the words interviewees used to describe their worlds and experiences. In doing so, I've used the language of their times and backgrounds, including words such as *colored*. Members of the Lacks family often referred to Johns Hopkins as "John Hopkin," and I've kept their usage when they're speaking. Anything written in the first person in Deborah Lacks's voice is a quote of her speaking, edited for length and occasionally clarity.

Since Henrietta Lacks died decades before I began writing this book, I relied on interviews, legal documents, and her medical records to re-create scenes from her life. In those scenes, dialogue is either deduced from the written record or quoted verbatim as it was recounted to me in an interview. Whenever possible I conducted multiple interviews with multiple sources to ensure accuracy. The extract from Henrietta's medical record in [chapter 1](#) is a summary of many disparate notations.

The word *HeLa*, used to refer to the cells grown from Henrietta Lacks's cervix, occurs throughout the book. It is pronounced *hee-lah*.

About chronology: Dates for scientific research refer to when the research was conducted, not when it was published. In some cases those dates are approximate because there is no record of exact start dates. Also, because I move back and forth between multiple stories, and scientific discoveries occur over many years, there are places in the book where, for the sake of clarity, I describe scientific discoveries sequentially, even though they took place during the same general period of time.

The history of Henrietta Lacks and the HeLa cells raises important issues regarding science, ethics, race, and class; I've done my best to present them clearly within the narrative of the Lacks story, and I've included an afterword addressing the current legal and ethical debate surrounding tissue ownership and research. There is much more to say on all the issues, but that is beyond the scope of this book, so I will leave it for scholars and experts in the field to address. I hope readers will forgive any omissions.

We must not see *any* person as an abstraction.

Instead, we must see in every person a universe with its own secrets, with its own treasures, with its own sources of anguish, and with some measure of triumph.

—ELIE WIESEL

from *The Nazi Doctors and the Nuremberg Code*

PROLOGUE

The Woman in the Photograph

There's a photo on my wall of a woman I've never met, its left corner torn and patched together with tape. She looks straight into the camera and smiles, hands on hips, dress suit neatly pressed, lips painted deep red. It's the late 1940s and she hasn't yet reached the age of thirty. Her light brown skin is smooth, her eyes still young and playful, oblivious to the tumor growing inside her—a tumor that would leave her five children motherless and change the future of medicine. Beneath the photo, a caption says her name is “Henrietta Lacks, Helen Lane or Helen Larson.”

No one knows who took that picture, but it's appeared hundreds of times in magazines and science textbooks, on blogs and laboratory walls. She's usually identified as Helen Lane, but often she has no name at all. She's simply called HeLa, the code name given to the world's first immortal human *cells*—*her* cells, cut from her cervix just months before she died. Her real name is Henrietta Lacks.

I've spent years staring at that photo, wondering what kind of life she led, what happened to her children, and what she'd think about cells from her cervix living on forever—bought, sold, packaged, and shipped by the trillions to laboratories around the world. I've tried to imagine how she'd

feel knowing that her cells went up in the first space missions to see what would happen to human cells in zero gravity, or that they helped with some of the most important advances in medicine: the polio vaccine, chemotherapy, cloning, gene mapping, in vitro fertilization. I'm pretty sure that she—like most of us—would be shocked to hear that there are trillions more of her cells growing in laboratories now than there ever were in her body.

There's no way of knowing exactly how many of Henrietta's cells are alive today. One scientist estimates that if you could pile all HeLa cells ever grown onto a scale, they'd weigh more than 50 million metric tons—an inconceivable number, given that an individual cell weighs almost nothing. Another scientist calculated that if you could lay all HeLa cells ever grown end-to-end, they'd wrap around the Earth at least three times, spanning more than 350 million feet. In her prime, Henrietta herself stood only a bit over five feet tall.

I first learned about HeLa cells and the woman behind them in 1988, thirty-seven years after her death, when I was sixteen and sitting in a community college biology class. My instructor, Donald Defler, a gnomish balding man, paced at the front of the lecture hall and flipped on an overhead projector. He pointed to two diagrams that appeared on the wall

behind him. They were schematics of the cell reproduction cycle, but to me they just looked like a neon-colored mess of arrows, squares, and circles with words I didn't understand, like "MPF Triggering a Chain Reaction of Protein Activations."

I was a kid who'd failed freshman year at the regular public high school because she never showed up. I'd transferred to an alternative school that offered dream studies instead of biology, so I was taking Defler's class for high-school credit, which meant that I was sitting in a college lecture hall at sixteen with words like *mitosis* and *kinase inhibitors* flying around. I was completely lost.

"Do we have to memorize everything on those diagrams?" one student yelled.

Yes, Defler said, we had to memorize the diagrams, and yes, they'd be on the test, but that didn't matter right then. What he wanted us to understand was that cells are amazing things: There are about one hundred trillion of them in our bodies, each so small that several thousand could fit on the period at the end of this sentence. They make up all our tissues—muscle, bone, blood—which in turn make up our organs.

Under the microscope, a cell looks a lot like a fried egg: It has a white (the *cytoplasm*) that's full of water and proteins to keep it fed, and a yolk

(the *nucleus*) that holds all the genetic information that makes you *you*. The cytoplasm buzzes like a New York City street. It's crammed full of molecules and vessels endlessly shuttling enzymes and sugars from one part of the cell to another, pumping water, nutrients, and oxygen in and out of the cell. All the while, little cytoplasmic factories work 24/7, cranking out sugars, fats, proteins, and energy to keep the whole thing running and feed the nucleus. The nucleus is the brains of the operation; inside every nucleus within each cell in your body, there's an identical copy of your entire genome. That genome tells cells when to grow and divide and makes sure they do their jobs, whether that's controlling your heartbeat or helping your brain understand the words on this page.

Defler paced the front of the classroom telling us how mitosis—the process of cell division—makes it possible for embryos to grow into babies, and for our bodies to create new cells for healing wounds or replenishing blood we've lost. It was beautiful, he said, like a perfectly choreographed dance.

All it takes is one small mistake anywhere in the division process for cells to start growing out of control, he told us. Just *one* enzyme misfiring, just *one* wrong protein activation, and you could have cancer. Mitosis goes haywire, which is how it spreads.

“We learned that by studying cancer cells in culture,” Defler said. He grinned and spun to face the board, where he wrote two words in enormous print: HENRIETTA LACKS.

Henrietta died in 1951 from a vicious case of cervical cancer, he told us. But before she died, a surgeon took samples of her tumor and put them in a petri dish. Scientists had been trying to keep human cells alive in culture for decades, but they all eventually died. Henrietta’s were different: they reproduced an entire generation every twenty-four hours, and they never stopped. They became the first immortal human cells ever grown in a laboratory.

“Henrietta’s cells have now been living outside her body far longer than they ever lived inside it,” Defler said. If we went to almost any cell culture lab in the world and opened its freezers, he told us, we’d probably find millions—if not billions—of Henrietta’s cells in small vials on ice.

Her cells were part of research into the genes that cause cancer and those that suppress it; they helped develop drugs for treating herpes, leukemia, influenza, hemophilia, and Parkinson’s disease; and they’ve been used to study lactose digestion, sexually transmitted diseases, appendicitis, human longevity, mosquito mating, and the negative cellular effects of working in sewers. Their chromosomes and proteins have been studied with such detail

and precision that scientists know their every quirk. Like guinea pigs and mice, Henrietta's cells have become the standard laboratory workhorse.

"HeLa cells were one of the most important things that happened to medicine in the last hundred years," Defler said.

Then, matter-of-factly, almost as an afterthought, he said, "She was a black woman." He erased her name in one fast swipe and blew the chalk from his hands. Class was over.

As the other students filed out of the room, I sat thinking, *That's it?*

That's all we get? There has to be more to the story.

I followed Defler to his office.

"Where was she from?" I asked. "Did she know how important her cells were? Did she have any children?"

"I wish I could tell you," he said, "but no one knows anything about her."

After class, I ran home and threw myself onto my bed with my biology textbook. I looked up "cell culture" in the index, and there she was, a small parenthetical:

In culture, cancer cells can go on dividing indefinitely, if they have a continual supply of nutrients,

and thus are said to be "immortal." A striking example is a cell line that has been reproducing in

culture since 1951. (Cells of this line are called HeLa cells because their original source was a

tumor removed from a woman named Henrietta Lacks.)

That was it. I looked up HeLa in my parents' encyclopedia, then my dictionary: No Henrietta.

As I graduated from high school and worked my way through college toward a biology degree, HeLa cells were omnipresent. I heard about them in histology, neurology, pathology; I used them in experiments on how neighboring cells communicate. But after Mr. Defler, no one mentioned Henrietta.

When I got my first computer in the mid-nineties and started using the Internet, I searched for information about her, but found only confused snippets: most sites said her name was Helen Lane; some said she died in the thirties; others said the forties, fifties, or even sixties. Some said ovarian cancer killed her, others said breast or cervical cancer.

Eventually I tracked down a few magazine articles about her from the seventies. *Ebony* quoted Henrietta's husband saying, "All I remember is that she had this disease, and right after she died they called me in the office wanting to get my permission to take a sample of some kind. I decided not to let them." *Jet* said the family was angry—angry that Henrietta's cells were being sold for twenty-five dollars a vial, and angry that articles had

been published about the cells without their knowledge. It said, “Pounding in the back of their heads was a gnawing feeling that science and the press had taken advantage of them.”

The articles all ran photos of Henrietta’s family: her oldest son sitting at his dining room table in Baltimore, looking at a genetics textbook. Her middle son in military uniform, smiling and holding a baby. But one picture stood out more than any other: in it, Henrietta’s daughter, Deborah Lacks, is surrounded by family, everyone smiling, arms around each other, eyes bright and excited. Except Deborah. She stands in the foreground looking alone, almost as if someone pasted her into the photo after the fact. She’s twenty-six years old and beautiful, with short brown hair and catlike eyes. But those eyes glare at the camera, hard and serious. The caption said the family had found out just a few months earlier that Henrietta’s cells were still alive, yet at that point she’d been dead for twenty-five years.

All of the stories mentioned that scientists had begun doing research on Henrietta’s children, but the Lackses didn’t seem to know what that research was for. They said they were being tested to see if they had the cancer that killed Henrietta, but according to the reporters, scientists were studying the Lacks family to learn more about Henrietta’s cells. The stories quoted her son Lawrence, who wanted to know if the immortality of his

mother's cells meant that he might live forever too. But one member of the family remained voiceless: Henrietta's daughter, Deborah.

As I worked my way through graduate school studying writing, I became fixated on the idea of someday telling Henrietta's story. At one point I even called directory assistance in Baltimore looking for Henrietta's husband, David Lacks, but he wasn't listed. I had the idea that I'd write a book that was a biography of both the cells and the woman they came from—someone's daughter, wife, and mother.

I couldn't have imagined it then, but that phone call would mark the beginning of a decadelong adventure through scientific laboratories, hospitals, and mental institutions, with a cast of characters that would include Nobel laureates, grocery store clerks, convicted felons, and a professional con artist. While trying to make sense of the history of cell culture and the complicated ethical debate surrounding the use of human tissues in research, I'd be accused of conspiracy and slammed into a wall both physically and metaphorically, and I'd eventually find myself on the receiving end of something that looked a lot like an exorcism. I did eventually meet Deborah, who would turn out to be one of the strongest and most resilient women I'd ever known. We'd form a deep personal bond, and slowly, without realizing it, I'd become a character in her story, and she in

mine.

Deborah and I came from very different cultures: I grew up white and agnostic in the Pacific Northwest, my roots half New York Jew and half Midwestern Protestant; Deborah was a deeply religious black Christian from the South. I tended to leave the room when religion came up in conversation because it made me uncomfortable; Deborah's family tended toward preaching, faith healings, and sometimes voo doo. She grew up in a black neighborhood that was one of the poorest and most dangerous in the country; I grew up in a safe, quiet middle-class neighborhood in a predominantly white city and went to high school with a total of two black students. I was a science journalist who referred to all things supernatural as "woo-woo stuff;" Deborah believed Henrietta's spirit lived on in her cells, controlling the life of anyone who crossed its path. Including me.

"How else do you explain why your science teacher knew her real name when everyone else called her Helen Lane?" Deborah would say. "She was trying to get your attention." This thinking would apply to everything in my life: when I married while writing this book, it was because Henrietta wanted someone to take care of me while I worked. When I divorced, it was because she'd decided he was getting in the way of the book. When an editor who insisted I take the Lacks family out of the book was injured in a

mysterious accident, Deborah said that's what happens when you piss Henrietta off.

The Lackses challenged everything I thought I knew about faith, science, journalism, and race. Ultimately, this book is the result. It's not only the story of HeLa cells and Henrietta Lacks, but of Henrietta's family—particularly Deborah—and their lifelong struggle to make peace with the existence of those cells, and the science that made them possible.

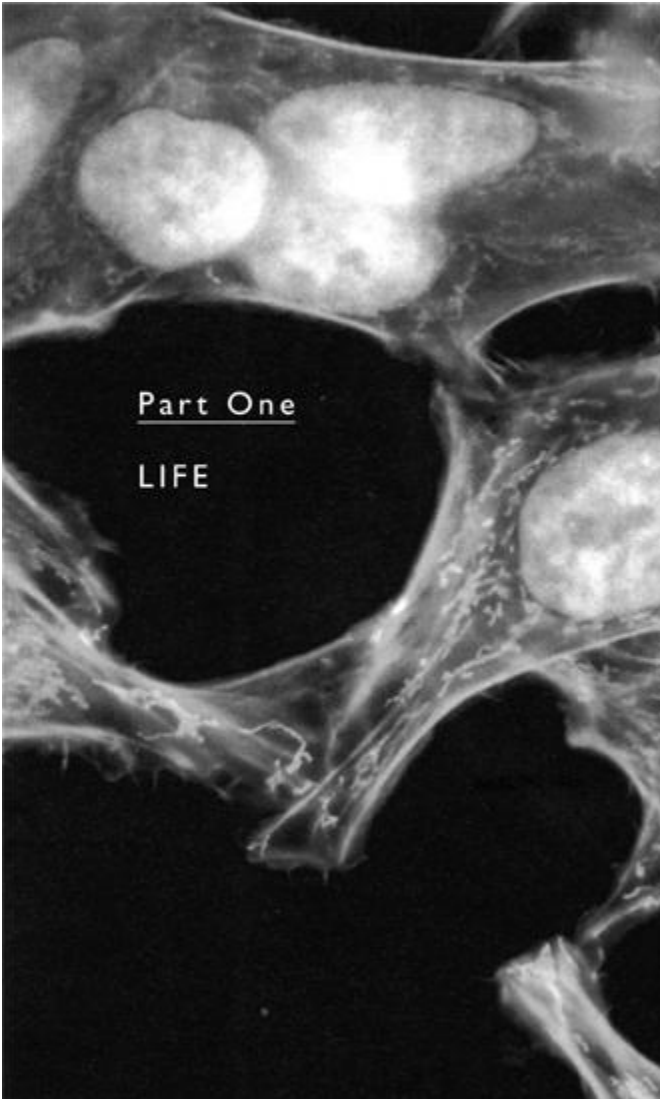
DEBORAH'S VOICE

When people ask—and seems like people always be askin to where I can't never get away from it—I say, Yeah, that's right, my mother name was Henrietta Lacks, she died in 1951, John Hopkins took her cells and them cells are still livin today, still multiplyin, still growin and spreadin if you don't keep em frozen. Science calls her HeLa and she's all over the world in medical facilities, in all the computers and the Internet everywhere.

When I go to the doctor for my checkups I always say my mother was HeLa. They get all excited, tell me stuff like how her cells helped make my blood pressure medicines and antidepression pills and how all this important stuff in science happen cause of her. But they don't never explain more than just sayin, Yeah, your mother was on the moon, she been in nuclear bombs and made that polio vaccine. I really don't know how she did all that, but I

guess I'm glad she did, cause that mean she helpin lots of people. I think she would like that.

But I always have thought it was strange, if our mother cells done so much for medicine, how come her family can't afford to see no doctors? Don't make no sense. People got rich off my mother without us even knowin about them takin her cells, now we don't get a dime. I used to get so mad about that to where it made me sick and I had to take pills. But I don't got it in me no more to fight. I just want to know who my mother was.



1920S . 1930S . 1940S . 1950S . 1960S . 1970S . 1980S . 1990S . 2000S

▲
1951

1 The Exam

On January 29, 1951, David Lacks sat behind the wheel of his old Buick, watching the rain fall. He was parked under a towering oak tree outside Johns Hopkins Hospital with three of his children—two still in diapers—

waiting for their mother, Henrietta. A few minutes earlier she'd jumped out of the car, pulled her jacket over her head, and scurried into the hospital, past the "colored" bathroom, the only one she was allowed to use. In the next building, under an elegant domed copper roof, a ten-and-a-half-foot marble statue of Jesus stood, arms spread wide, holding court over what was once the main entrance of Hopkins. No one in Henrietta's family ever saw a Hopkins doctor without visiting the Jesus statue, laying flowers at his feet, saying a prayer, and rubbing his big toe for good luck. But that day Henrietta didn't stop.

She went straight to the waiting room of the gynecology clinic, a wide-open space, empty but for rows of long straight-backed benches that looked like church pews.

"I got a knot on my womb," she told the receptionist. "The doctor need to have a look."

For more than a year Henrietta had been telling her closest girlfriends something didn't feel right. One night after dinner, she sat on her bed with her cousins Margaret and Sadie and told them, "I got a knot inside me."

"A what?" Sadie asked.

"A knot," she said. "It hurt somethin awful—when that man want to get with me, Sweet Jesus aren't them but some pains."

When sex first started hurting, she thought it had something to do with baby Deborah, who she'd just given birth to a few weeks earlier, or the bad blood David sometimes brought home after nights with other women—the kind doctors treated with shots of penicillin and heavy metals.

Henrietta grabbed her cousins' hands one at a time and guided them to her belly, just as she'd done when Deborah started kicking.

“You feel anything?”

The cousins pressed their fingers into her stomach again and again.

“I don't know,” Sadie said. “Maybe you're pregnant outside your womb—you know that *can* happen.”

“I'm no kind of pregnant,” Henrietta said. “It's a knot.”

“Hennie, you gotta check that out. What if it's somethin bad?”

But Henrietta didn't go to the doctor, and the cousins didn't tell anyone what she'd said in the bedroom. In those days, people didn't talk about things like cancer, but Sadie always figured Henrietta kept it secret because she was afraid a doctor would take her womb and make her stop having children.

About a week after telling her cousins she thought something was wrong, at the age of twenty-nine, Henrietta turned up pregnant with Joe, her fifth child. Sadie and Margaret told Henrietta that the pain probably had

something to do with a baby after all. But Henrietta still said no.

“It was there before the baby,” she told them. “It’s somethin else.”

They all stopped talking about the knot, and no one told Henrietta’s husband David anything about it. Then, four and a half months after baby Joseph was born, Henrietta went to the bathroom and found blood spotting her underwear when it wasn’t her time of the month.

She filled her bathtub, lowered herself into the warm water, and slowly spread her legs. With the door closed to her children, husband, and cousins, Henrietta slid a finger inside herself and rubbed it across her cervix until she found what she somehow knew she’d find: a hard lump, deep inside, as though someone had lodged a marble just to the left of the opening to her womb.

Henrietta climbed out of the bathtub, dried herself off, and dressed. Then she told her husband, “You better take me to the doctor. I’m bleedin and it ain’t my time.”

Her local doctor took one look inside her, saw the lump, and figured it was a sore from syphilis. But the lump tested negative for syphilis, so he told Henrietta she’d better go to the Johns Hopkins gynecology clinic.

Hopkins was one of the top hospitals in the country. It was built in 1889 as a charity hospital for the sick and poor, and it covered more than a dozen

acres where a cemetery and insane asylum once sat in East Baltimore. The public wards at Hopkins were filled with patients, most of them black and unable to pay their medical bills. David drove Henrietta nearly twenty miles to get there, not because they preferred it, but because it was the only major hospital for miles that treated black patients. This was the era of Jim Crow—when black people showed up at white-only hospitals, the staff was likely to send them away, even if it meant they might die in the parking lot. Even Hopkins, which did treat black patients, segregated them in colored wards, and had colored-only fountains.

So when the nurse called Henrietta from the waiting room, she led her through a single door to a colored-only exam room—one in a long row of rooms divided by clear glass walls that let nurses see from one to the next. Henrietta undressed, wrapped herself in a starched white hospital gown, and lay down on a wooden exam table, waiting for Howard Jones, the gynecologist on duty. Jones was thin and graying, his deep voice softened by a faint Southern accent. When he walked into the room, Henrietta told him about the lump. Before examining her, he flipped through her chart—a quick sketch of her life, and a litany of untreated conditions:

Sixth or seventh grade education; housewife and mother of five. Breathing difficult since childhood

due to recurrent throat infections and deviated septum in patient's nose. Physician recommended

surgical repair. Patient declined. Patient had one toothache for nearly five years; tooth eventually

extracted with several others. Only anxiety is oldest daughter who is epileptic and can't talk. Happy

household. Very occasional drinker. Has not traveled. Well nourished, cooperative. Patient was one

of ten siblings. One died of car accident, one from rheumatic heart, one was poisoned. Unexplained

vaginal bleeding and blood in urine during last two pregnancies; physician recommended sickle

cell test. Patient declined. Been with husband since age 15 and has no liking for sexual intercourse.

Patient has asymptomatic neuro syphilis but cancelled syphilis treatments, said she felt fine. Two

months prior to current visit, after delivery of fifth child, patient had significant blood in urine.

Tests showed areas of increased cellular activity in the cervix. Physician recommended diagnostics

and referred to specialist for ruling out infection or cancer. Patient canceled appointment. One

month prior to current visit, patient tested positive for gonorrhea. Patient recalled to clinic for

treatment. No response.

It was no surprise that she hadn't come back all those times for follow-

up. For Henrietta, walking into Hopkins was like entering a foreign country where she didn't speak the language. She knew about harvesting tobacco and butchering a pig, but she'd never heard the words *cervix* or *biopsy*. She didn't read or write much, and she hadn't studied science in school. She, like most black patients, only went to Hopkins when she thought she had no choice.

Jones listened as Henrietta told him about the pain, the blood. "She says that she knew there was something wrong with the neck of her womb," he wrote later. "When asked why she knew it, she said that she felt as if there were a lump there. I do not quite know what she means by this, unless she actually palpated this area."

Henrietta lay back on the table, feet pressed hard in stirrups as she stared at the ceiling. And sure enough, Jones found a lump exactly where she'd said he would. He described it as an eroded, hard mass about the size of a nickel. If her cervix was a clock's face, the lump was at four o'clock. He'd seen easily a thousand cervical cancer lesions, but never anything like this: shiny and purple (like "grape Jello," he wrote later), and so delicate it bled at the slightest touch. Jones cut a small sample and sent it to the pathology lab down the hall for a diagnosis. Then he told Henrietta to go home.

Soon after, Howard Jones sat down and dictated notes about Henrietta

and her diagnosis: “Her history is interesting in that she had a term delivery here at this hospital, September 19, 1950,” he said. “No note is made in the history at that time, or at the six weeks’ return visit that there is any abnormality of the cervix.”

Yet here she was, three months later, with a full-fledged tumor. Either her doctors had missed it during her last exams—which seemed impossible—or it had grown at a terrifying rate.



2 Clover

Henrietta Lacks was born Loretta Pleasant in Roanoke, Virginia, on August 1, 1920. No one knows how she became Henrietta. A midwife named Fannie delivered her into a small shack on a dead-end road overlooking a train depot, where hundreds of freight cars came and went each day. Henrietta shared that house with her parents and eight older siblings until 1924, when her mother, Eliza Lacks Pleasant, died giving birth to her tenth child.

Henrietta’s father, Johnny Pleasant, was a squat man who hobbled around on a cane he often hit people with. Family lore has it that he killed his own

brother for trying to get fresh with Eliza. Johnny didn't have the patience for raising children, so when Eliza died, he took them all back to Clover, Virginia, where his family still farmed the tobacco fields their ancestors had worked as slaves. No one in Clover could take all ten children, so relatives divided them up—one with this cousin, one with that aunt. Henrietta ended up with her grandfather, Tommy Lacks.

Tommy lived in what everyone called the home-house—a four-room log cabin that once served as slave quarters, with plank floors, gas lanterns, and water Henrietta hauled up a long hill from the creek. The home-house stood on a hillside where wind whipped through cracks in the walls. The air inside stayed so cool that when relatives died, the family kept their corpses in the front hallway for days so people could visit and pay respects. Then they buried them in the cemetery out back.

Henrietta's grandfather was already raising another grandchild that one of his daughters had left behind after delivering him on the home-house floor. That child's name was David Lacks, but everyone called him Day, because in the Lacks country drawl, house sounds like *hyse*, and David sounds like *Day*.

Young Day was what the Lacks family called a sneak baby: a man named Johnny Coleman had passed through town; nine months later Day arrived.

A twelve-year-old cousin and midwife named Munchie delivered him, blue as a stormy sky and not breathing. A white doctor came to the home-house with his derby and walking stick, wrote “stillborn” on Day’s birth certificate, then drove his horse-drawn buggy back to town, leaving a cloud of red dust behind.

Munchie prayed as he rode away, *Lord, I know you didn’t mean to take this baby*. She washed Day in a tub of warm water, then put him on a white sheet where she rubbed and patted his chest until he gasped for breath and his blue skin warmed to soft brown.

By the time Johnny Pleasant shipped Henrietta off to live with Grandpa Tommy, she was four and Day was almost nine. No one could have guessed she’d spend the rest of her life with Day—first as a cousin growing up in their grandfather’s home, then as his wife.

As children, Henrietta and Day awoke each morning at four o’clock to milk the cows and feed the chickens, hogs, and horses. They tended a garden filled with corn, peanuts, and greens, then headed to the tobacco fields with their cousins Cliff, Fred, Sadie, Margaret, and a horde of others. They spent much of their young lives stooped in those fields, planting tobacco behind mule-drawn plows. Each spring they pulled the wide green leaves from their stalks and tied them into small bundles—their fingers raw

and sticky with nicotine resin—then climbed the rafters of their grandfather's tobacco barn to hang bundle after bundle for curing. Each summer day they prayed for a storm to cool their skin from the burning sun. When they got one, they'd scream and run through fields, snatching armfuls of ripe fruit and walnuts that the winds blew from the trees.

Like most young Lackses, Day didn't finish school: he stopped in the fourth grade because the family needed him to work the fields. But Henrietta stayed until the sixth grade. During the school year, after taking care of the garden and livestock each morning, she'd walk two miles—past the white school where children threw rocks and taunted her—to the colored school, a three-room wooden farmhouse hidden under tall shade trees, with a yard out front where Mrs. Coleman made the boys and girls play on separate sides. When school let out each day, and any time it wasn't in session, Henrietta was in the fields with Day and the cousins.

If the weather was nice, when they finished working, the cousins ran straight to the swimming hole they made each year by damming the creek behind the house with rocks, sticks, bags of sand, and anything else they could sink. They threw rocks to scare away the poisonous cottonmouth snakes, then dropped into the water from tree branches or dove from muddy banks.

At nightfall they built fires with pieces of old shoes to keep the mosquitoes away, and watched the stars from beneath the big oak tree where they'd hung a rope to swing from. They played tag, ring-around-the-rosy, and hopscotch, and danced around the field singing until Grandpa Tommy yelled for everyone to go to bed.

Each night, piles of cousins packed into the crawl space above a little wooden kitchen house just a few feet from the home-house. They lay one next to the other—telling stories about the headless tobacco farmer who roamed the streets at night, or the man with no eyes who lived by the creek—then slept until their grandmother Chloe fired up the woodstove below and woke them to the smell of fresh biscuits.

One evening each month during harvest season, Grandpa Tommy hitched the horses after supper and readied them to ride into the town of South Boston—home of the nation's second-largest tobacco market, with tobacco parades, a Miss Tobacco pageant, and a port where boats collected the dried leaves for people around the world to smoke.

Before leaving home, Tommy would call for the young cousins, who'd nestle into the flat wagon on a bed of tobacco leaves, then fight sleep as long as they could before giving in to the rhythm of the horses. Like farmers from all over Virginia, Tommy Lacks and the grandchildren rode

through the night to bring their crops to South Boston, where they'd line up at dawn—one wagon behind the next—waiting for the enormous green wooden gates of the auction warehouse to open.

When they arrived, Henrietta and the cousins would help unhitch the horses and fill their troughs with grain, then unload the family's tobacco onto the wood-plank floor of the warehouse. The auctioneer rattled off numbers that echoed through the huge open room, its ceiling nearly thirty feet high and covered with skylights blackened by years of dirt. As Tommy Lacks stood by his crop praying for a good price, Henrietta and the cousins ran around the tobacco piles, talking in a fast gibberish to sound like the auctioneer. At night they'd help Tommy haul any unsold tobacco down to the basement, where he'd turn the leaves into a bed for the children. White farmers slept upstairs in lofts and private rooms; black farmers slept in the dark underbelly of the warehouse with the horses, mules, and dogs, on a dusty dirt floor lined with rows of wooden stalls for livestock, and mountains of empty liquor bottles piled almost to the ceiling.

Night at the warehouse was a time of booze, gambling, prostitution, and occasional murders as farmers burned through their season's earnings. From their bed of leaves, the Lacks children would stare at ceiling beams the size of trees as they drifted off to the sound of laughter and clanking bottles, and

the smell of dried tobacco.

In the morning they'd pile into the wagon with their unsold harvest and set out on the long journey home. Any cousins who'd stayed behind in Clover knew a wagon ride into South Boston meant treats for everyone—a hunk of cheese, maybe, or a slab of bologna—so they waited for hours on Main Street to follow the wagon to the home-house.

Clover's wide, dusty Main Street was full of Model As, and wagons pulled by mules and horses. Old Man Snow had the first tractor in town, and he drove it to the store like it was a car—newspaper tucked under his arm, his hounds Cadillac and Dan baying beside him. Main Street had a movie theater, bank, jewelry store, doctor's office, hardware store, and several churches. When the weather was good, white men with suspenders, top hats, and long cigars—everyone from mayor to doctor to undertaker—stood along Main Street sipping whiskey from juice bottles, talking, or playing checkers on the wooden barrel in front of the pharmacy. Their wives gossiped at the general store as their babies slept in a row on the counter, heads resting on long bolts of fabric.

Henrietta and her cousins would hire themselves out to those white folks, picking their tobacco for ten cents so they'd have money to see their favorite Buck Jones cowboy movies. The theater owner showed silent

black-and-white films, and his wife played along on the piano. She knew only one song, so she played happy carnival-style music for every scene, even when characters were getting shot and dying. The Lacks children sat up in the colored section next to the projector, which clicked like a metronome through the whole movie.

As Henrietta and Day grew older, they traded ring-around-the-rosy for horse races along the dirt road that ran the length of what used to be the Lacks tobacco plantation, but was now simply called Lacks Town. The boys always fought over who got to ride Charlie Horse, Grandpa Tommy's tall bay, which could outrun any other horse in Clover. Henrietta and the other girls watched from the hillside or the backs of straw-filled wagons, hopping up and down, clapping and screaming as the boys streaked by on horseback. Henrietta often yelled for Day, but sometimes she cheered for another cousin, Crazy Joe Grinnan. Crazy Joe was what their cousin Cliff called "an over average man"—tall, husky, and strong, with dark skin, a sharp nose, and so much thick black hair covering his head, arms, back, and neck that he had to shave his whole body in the summer to keep from burning up. They called him Crazy Joe because he was so in love with Henrietta, he'd do anything to get her attention. She was the prettiest girl in Lacks Town, with her beautiful smile and walnut eyes.

The first time Crazy Joe tried to kill himself over Henrietta, he ran circles around her in the middle of winter while she was on her way home from school. He begged her for a date, saying, “Hennie, come on ... just give me a chance.” When she laughed and said no, Crazy Joe ran and jumped straight through the ice of a frozen pond and refused to come out until she agreed to go out with him.

All the cousins teased Joe, saying, “Maybe he thought that ice water might’a cool him off, but he so hot for her, that water nearly started boiling!” Henrietta’s cousin Sadie, who was Crazy Joe’s sister, yelled at him, “Man you so much in love with a girl, you gonna die for her? That ain’t right.”

No one knew what happened between Henrietta and Crazy Joe, except that there were some dates and some kisses. But Henrietta and Day had been sharing a bedroom since she was four, so what happened next didn’t surprise anyone: they started having children together. Their son Lawrence was born just months after Henrietta’s fourteenth birthday; his sister Lucile Elsie Pleasant came along four years later. They were both born on the floor of the home-house like their father, grandmother, and grandfather before them.

People wouldn’t use words like *epilepsy*, *mental retardation*, or

neurosyphilis to describe Elsie's condition until years later. To the folks in Lacks Town, she was just simple. Touched. She came into the world so fast, Day hadn't even gotten back with the midwife when Elsie shot right out and hit her head on the floor. Everyone would say maybe that was what left her mind like an infant's.

The old dusty record books from Henrietta's church are filled with the names of women cast from the congregation for bearing children out of wedlock, but for some reason Henrietta never was, even as rumors floated around Lacks Town that maybe Crazy Joe had fathered one of her children. When Crazy Joe found out Henrietta was going to marry Day, he stabbed himself in the chest with an old dull pocketknife. His father found him lying drunk in their yard, shirt soaked with blood. He tried to stop the bleeding, but Joe fought him—thrashing and punching—which just made him bleed more. Eventually Joe's father wrestled him into the car, tied him tight to the door, and drove to the doctor. When Joe got home all bandaged up, Sadie just kept saying, "All that to stop Hennie from marrying Day?" But Crazy Joe wasn't the only one trying to stop the marriage.

Henrietta's sister Gladys was always saying Henrietta could do better. When most Lackses talked about Henrietta and Day and their early life in Clover, it sounded as idyllic as a fairy tale. But not Gladys. No one knew

why she was so against the marriage. Some folks said Gladys was just jealous because Henrietta was prettier. But Gladys always insisted Day would be a no-good husband.

Henrietta and Day married alone at their preacher's house on April 10, 1941. She was twenty; he was twenty-five. They didn't go on a honeymoon because there was too much work to do, and no money for travel. By winter, the United States was at war and tobacco companies were supplying free cigarettes to soldiers, so the market was booming. But as large farms flourished, the small ones struggled. Henrietta and Day were lucky if they sold enough tobacco each season to feed the family and plant the next crop. So after their wedding, Day went back to gripping the splintered ends of his old wooden plow as Henrietta followed close behind, pushing a homemade wheelbarrow and dropping tobacco seedlings into holes in the freshly turned red dirt.

Then one afternoon at the end of 1941, their cousin Fred Garret came barreling down the dirt road beside their field. He was just back from Baltimore for a visit in his slick '36 Chevy and fancy clothes. Only a year earlier, Fred and his brother Cliff had been tobacco farmers in Clover too. For extra money, they'd opened a "colored" convenience store where most customers paid in IOUs; they also ran an old cinderblock juke joint where

Henrietta often danced on the red-dirt floor. Everybody put coins in the jukebox and drank RC Cola, but the profits never amounted to much. So eventually Fred took his last three dollars and twenty-five cents and bought a bus ticket north for a new life. He, like several other cousins, went to work at Bethlehem Steel's Sparrows Point steel mill and live in Turner Station, a small community of black workers on a peninsula in the Patapsco River, about twenty miles from downtown Baltimore.

In the late 1800s, when Sparrows Point first opened, Turner Station was mostly swamps, farmland, and a few shanties connected with wooden boards for walkways. When demand for steel increased during World War I, streams of white workers moved into the nearby town of Dundalk, and Bethlehem Steel's housing barracks for black workers quickly overflowed, pushing them into Turner Station. By the early years of World War II, Turner Station had a few paved roads, a doctor, a general store, and an ice man. But its residents were still fighting for water, sewage lines, and schools.

Then, in December 1941, Japan bombed Pearl Harbor, and it was like Turner Station had won the lottery: the demand for steel skyrocketed, as did the need for workers. The government poured money into Turner Station, which began filling with one-and two-story housing projects, many of them

pressed side by side and back-to-back, some with four to five hundred units. Most were brick, others covered with asbestos shingles. Some had yards, some didn't. From most of them you could see the flames dancing above Sparrows Point's furnaces and the eerie red smoke pouring from its smokestacks.

Sparrows Point was rapidly becoming the largest steel plant in the world. It produced concrete-reinforcing bars, barbed wire, nails, and steel for cars, refrigerators, and military ships. It would burn more than six million tons of coal each year to make up to eight million tons of steel and employ more than 30,000 workers. Bethlehem Steel was a gold mine in a time flush with poverty, especially for black families from the South. Word spread from Maryland to the farms of Virginia and the Carolinas, and as part of what would become known as the Great Migration, black families flocked from the South to Turner Station—the Promised Land.

The work was tough, especially for black men, who got the jobs white men wouldn't touch. Like Fred, black workers usually started in the bowels of partially built tankers in the shipyard, collecting bolts, rivets, and nuts as they fell from the hands of men drilling and welding thirty or forty feet up. Eventually black workers moved up to the boiler room, where they shoveled coal into a blazing furnace. They spent their days breathing in

toxic coal dust and asbestos, which they brought home to their wives and daughters, who inhaled it while shaking the men's clothes out for the wash. The black workers at Sparrows Point made about eighty cents an hour at most, usually less. White workers got higher wages, but Fred didn't complain: eighty cents an hour was more than most Lackses had ever seen. Fred had made it. Now he'd come back to Clover to convince Henrietta and Day that they should do the same. The morning after he came barreling into town, Fred bought Day a bus ticket to Baltimore. They agreed Henrietta would stay behind to care for the children and the tobacco until Day made enough for a house of their own in Baltimore, and three tickets north. A few months later, Fred got a draft notice shipping him overseas. Before he left, Fred gave Day all the money he'd saved, saying it was time to get Henrietta and the children to Turner Station.

Soon, with a child on each side, Henrietta boarded a coal-fueled train from the small wooden depot at the end of Clover's Main Street. She left the tobacco fields of her youth and the hundred-year-old oak tree that shaded her from the sun on so many hot afternoons. At the age of twenty-one, Henrietta stared through the train window at rolling hills and wide-open bodies of water for the first time, heading toward a new life.

1920s . 1930s . 1940s . 1950s . 1960s . 1970s . 1980s . 1990s . 2000s

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1951

3 Diagnosis and Treatment

After her visit to Hopkins, Henrietta went about life as usual, cleaning and cooking for Day, their children, and the many cousins who stopped by. Then, a few days later, Jones got her biopsy results from the pathology lab: “Epidermoid carcinoma of the cervix, Stage I.”

All cancers originate from a single cell gone wrong and are categorized based on the type of cell they start from. Most cervical cancers are carcinomas, which grow from the epithelial cells that cover the cervix and protect its surface. By chance, when Henrietta showed up at Hopkins complaining of abnormal bleeding, Jones and his boss, Richard Wesley TeLinde, were involved in a heated nationwide debate over what qualified as cervical cancer, and how best to treat it.

TeLinde, one of the top cervical cancer experts in the country, was a dapper and serious fifty-six-year-old surgeon who walked with an extreme limp from an ice-skating accident more than a decade earlier. Everyone at Hopkins called him Uncle Dick. He’d pioneered the use of estrogen for treating symptoms of menopause and made important early discoveries

about endometriosis. He'd also written one of the most famous clinical gynecology textbooks, which is still widely used sixty years and ten editions after he first wrote it. His reputation was international: when the king of Morocco's wife fell ill, he insisted only TeLinde could operate on her. By 1951, when Henrietta arrived at Hopkins, TeLinde had developed a theory about cervical cancer that, if correct, could save the lives of millions of women. But few in the field believed him.

Cervical carcinomas are divided into two types: invasive carcinomas, which have penetrated the surface of the cervix, and noninvasive carcinomas, which haven't. The noninvasive type is sometimes called "sugar-icing carcinoma," because it grows in a smooth layered sheet across the surface of the cervix, but its official name is *carcinoma in situ*, which derives from the Latin for "cancer in its original place."

In 1951, most doctors in the field believed that invasive carcinoma was deadly, and carcinoma in situ wasn't. So they treated the invasive type aggressively but generally didn't worry about carcinoma in situ because they thought it couldn't spread. TeLinde disagreed—he believed carcinoma in situ was simply an early stage of invasive carcinoma that, if left untreated, eventually became deadly. So he treated it aggressively, often removing the cervix, uterus, and most of the vagina. He argued that this

would drastically reduce cervical cancer deaths, but his critics called it extreme and unnecessary.

Diagnosing carcinoma in situ had only been possible since 1941, when George Papanicolaou, a Greek researcher, published a paper describing a test he'd developed, now called the Pap smear. It involved scraping cells from the cervix with a curved glass pipette and examining them under a microscope for precancerous changes that TeLinde and a few others had identified years earlier. This was a tremendous advance, because those precancerous cells weren't detectable otherwise: they caused no physical symptoms and weren't palpable or visible to the naked eye. By the time a woman began showing symptoms, there was little hope of a cure. But with the Pap smear, doctors could detect precancerous cells and perform a hysterectomy, and cervical cancer would be almost entirely preventable. At that point, more than 15,000 women were dying each year from cervical cancer. The Pap smear had the potential to decrease that death rate by 70 percent or more, but there were two things standing in its way: first, many women—like Henrietta—simply didn't get the test; and, second, even when they did, few doctors knew how to interpret the results accurately, because they didn't know what the various stages of cervical cancer looked like under a microscope. Some mistook cervical infections for cancer and

removed a woman's entire reproductive tract when all she needed was antibiotics. Others mistook malignant changes for infection, sending women home with antibiotics only to have them return later, dying from metastasized cancer. And even when doctors correctly diagnosed precancerous changes, they often didn't know how those changes should be treated.

TeLinde set out to minimize what he called "unjustifiable hysterectomies" by documenting what *wasn't* cervical cancer and by urging surgeons to verify smear results with biopsies before operating. He also hoped to prove that women with carcinoma in situ needed aggressive treatment, so their cancer didn't become invasive.

Not long before Henrietta's first exam, TeLinde presented his argument about carcinoma in situ to a major meeting of pathologists in Washington, D.C., and the audience heckled him off the stage. So he went back to Hopkins and planned a study that would prove them wrong: he and his staff would review all medical records and biopsies from patients who'd been diagnosed with invasive cervical cancer at Hopkins in the past decade, to see how many initially had carcinoma in situ.

Like many doctors of his era, TeLinde often used patients from the public wards for research, usually without their knowledge. Many scientists

believed that since patients were treated for free in the public wards, it was fair to use them as research subjects as a form of payment. And as Howard Jones once wrote, “Hopkins, with its large indigent black population, had no dearth of clinical material.”

In this particular study—the largest ever done on the relationship between the two cervical cancers—Jones and TeLinde found that 62 percent of women with invasive cancer who’d had earlier biopsies first had carcinoma in situ. In addition to that study, TeLinde thought, if he could find a way to grow living samples from normal cervical tissue and both types of cancerous tissue—something never done before—he could compare all three. If he could prove that carcinoma in situ and invasive carcinoma looked and behaved similarly in the laboratory, he could end the debate, showing that he’d been right all along, and doctors who ignored him were killing their patients. So he called George Gey (pronounced *Guy*), head of tissue culture research at Hopkins.

Gey and his wife, Margaret, had spent the last three decades working to grow malignant cells outside the body, hoping to use them to find cancer’s cause and cure. But most cells died quickly, and the few that survived hardly grew at all. The Geys were determined to grow the first *immortal* human cells: a continuously dividing line of cells all descended from one

original sample, cells that would constantly replenish themselves and never die. Eight years earlier—in 1943—a group of researchers at the National Institutes of Health had proven such a thing was possible using mouse cells. The Geys wanted to grow the human equivalent—they didn't care what kind of tissue they used, as long as it came from a person.

Gey took any cells he could get his hands on—he called himself “the world's most famous vulture, feeding on human specimens almost constantly.” So when TeLinde offered him a supply of cervical cancer tissue in exchange for trying to grow some cells, Gey didn't hesitate. And TeLinde began collecting samples from any woman who happened to walk into Hopkins with cervical cancer. Including Henrietta.

On February 5, 1951, after Jones got Henrietta's biopsy report back from the lab, he called and told her it was malignant. Henrietta didn't tell anyone what Jones said, and no one asked. She simply went on with her day as if nothing had happened, which was just like her—no sense upsetting anyone over something she could deal with herself.

That night Henrietta told her husband, “Day, I need to go back to the doctor tomorrow. He wants to do some tests, give me some medicine.” The next morning she climbed from the Buick outside Hopkins again, telling Day and the children not to worry.

“Ain’t nothin serious wrong,” she said. “Doctor’s gonna fix me right up.”

Henrietta went straight to the admissions desk and told the receptionist she was there for her treatment. Then she signed a form with the words OPERATION PERMIT at the top of the page. It said:

I hereby give consent to the staff of The Johns Hopkins Hospital to perform any operative

procedures and under any anaesthetic either local or general that they may deem necessary in the

proper surgical care and treatment of: _____

Henrietta printed her name in the blank space. A witness with illegible handwriting signed a line at the bottom of the form, and Henrietta signed another.

Then she followed a nurse down a long hallway into the ward for colored women, where Howard Jones and several other white physicians ran more tests than she’d had in her entire life. They checked her urine, her blood, her lungs. They stuck tubes in her bladder and nose.

On her second night at the hospital, the nurse on duty fed Henrietta an early dinner so her stomach would be empty the next morning, when a doctor put her under anesthetic for her first cancer treatment. Henrietta’s tumor was the invasive type, and like hospitals nationwide, Hopkins treated all invasive cervical carcinomas with radium, a white radioactive metal that

glows an eerie blue.

When radium was first discovered in the late 1800s, headlines nationwide hailed it as “a substitute for gas, electricity, and a positive cure for every disease.” Watchmakers added it to paint to make watch dials glow, and doctors administered it in powdered form to treat everything from seasickness to ear infections. But radium destroys any cells it encounters, and patients who’d taken it for trivial problems began dying. Radium causes mutations that can turn into cancer, and at high doses it can burn the skin off a person’s body. But it also kills cancer cells.

Hopkins had been using radium to treat cervical cancer since the early 1900s, when a surgeon named Howard Kelly visited Marie and Pierre Curie, the couple in France who’d discovered radium and its ability to destroy cancer cells. Without realizing the danger of contact with radium, Kelly brought some back to the United States in his pockets and regularly traveled the world collecting more. By the 1940s, several studies—one of them conducted by Howard Jones, Henrietta’s physician—showed that radium was safer and more effective than surgery for treating invasive cervical cancer.

The morning of Henrietta’s first treatment, a taxi driver picked up a doctor’s bag filled with thin glass tubes of radium from a clinic across town.