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ANNALS OF MEDICINE

THE LAST DEAL

At fifty-four, he was at the top of his game, and had it all. Then the Wall Street gambler found himself faced with an unexpected opponent—death.

BY JEROME GROOPMAN

“I won't take no for an answer. It's bullshit. I'm fifty-four. I'm not ready to just pack it up and die. I'm a fighter. I don't buy that nothing can be done."

As he spoke, Kirk Bains locked his jaundiced eyes on mine. He was obviously studying my face, looking for clues, trying to read my response in advance. I imagined that it was a style he adopted in his business meetings, where he would face down clients by looking hard into their eyes, to gauge whether the project and the people before him were worth his resources. This time, though, the roles were reversed.

"You've seen my records from Yale and Sloan-Kettering and M. D. Anderson," he went on. "They think I'm too sick for their research studies. So you cook up some new magic. Make me a guinea pig. I take risks all the time—that's my business. I won't sue you. My cousin Grant says you're a medical genius, a wizard."

"That's kind of Grant to say, but I'm not a genius or a wizard, Mr. Bains."

"Well, Dr. Groopman, I need you to be. Because you're my last hope."

Sitting at my desk in the oncology clinic at Harvard's Beth Israel Deaconess Medical Center, where I work, I had read Kirkland Bains's records, all ninety-six photocopied pages, and had no thoughts of magic, just cold despair. I had searched for some detail that might have been overlooked or incompletely investigated, hoping it might guide me to devise a rational and possibly effective treatment. But the CAT scans, operative reports, and blood tests left no basis for hope. The oncologists at Yale, Sloan-Kettering, and M. D. Anderson had quickly reached their conclusions, telegraphed in the records in disinterested clinical syntax: "Diffusely metastatic renal carcinoma. Multiple sites including liver, bones, and lungs involved. No effective therapy. Palliative care advised."

I imagined how they had translated this in private to his wife, Catherine, in order to dissuade him from pursuing treatment: the kidney cancer has spread throughout his body;

the few drugs we have don't work at this stage; he will only be hurt by their toxicities; his expected survival is no more than several weeks; it's best for your husband to be at home, made comfortable, and allowed to die.

I looked at Kirk Bains—his jet-black hair, sharp, aquiline nose, and square jaw: a handsome and decisive face—and wondered how long it would take him to accept his condition. I took an unused tablet of lined white paper from my desk drawer, put it where the records had been, and sat poised to write.

"I've read the reports, Mr. Bains."

"Call me Kirk, Dr. Groopman."

"Then call me Jerry. Let's start fresh. I want to hear the story directly from you—not from the records—and in detail, from the time you first noticed something was wrong. Then I'll examine you. From top to bottom. After that, we'll think this through together." (Bains's name, like certain others in this article, has been changed.)

I knew he'd been through this three times before, but I wasn't performing a perfunctory ritual. Even if I discovered no new fact or physical finding, there was a journey taken when I listened to a patient recount his history and when I palpated his body. It was a journey of the senses—hearing, touching, seeing—which carried me into another dimension, that of intuition.

I planned to walk deliberately along the milestones of Kirk's life—the character of his parents and his siblings, the extent of his education, the nature of his occupation, the details of his travel, the status of his personal relationships, the vicissitudes of his prior and current illnesses and treatments—and for brief but illuminating moments I would become integrated into his experience.

After imagining his past, I would be prepared to enter his present through the physical examination. My hands would press deeply into his abdomen to outline the breadth and texture of his inner organs; my eyes would peer behind his pupils to read the barometers of cerebral pressure and blood flow displayed on his retinas; my ears, linked by the stethoscope, would hear the timbre of his heart. In Kirk's case, though, I feared that I might not reach the dimension of intuition. The CAT scans and blood tests and operative findings—the consensus of my medical colleagues in New Haven, New York, and Houston—were like shackles on the imagination.

"I was on the golf course in Palm Beach," Kirk began. "The morning of September 20th. With two Jap investors. They had come in from Osaka. They were considering buying out my share in a refinery in the Gulf, off Galveston. I'm the lead investor. The refinery is expanding operations, betting that oil will recover. Good time to get in—early, before it becomes obvious to every maiden aunt with a pension fund. Anyway, we got up early to play and beat the heat. Japs are crazy for golf. Did you know that? If you ever want something from a Jap, first play golf with him. It doesn't hurt if you let him win, either."

I nodded uncomfortably, disturbed by his brazen attitude but considering how it might prove useful in the fight against his cancer.

"And at the first tee I felt this . . . this tug in my back. It wasn't really a pain. Not like sciatica, which I had once, years ago. Not sharp, like a knife cutting into me. But more a dull, heavy ache, like a charley horse that wouldn't let up. It was on my right side. I tried to ignore it, but it pulled at me through the morning. A lot of my shots went wide, into the rough. I played all eighteen holes. This time, I didn't have to let the Japs win."

Kirk stopped for a moment, in order to regain his breath. I noticed that his lips had assumed a faint bluish tinge of cyanosis, an indication that even the minimal exertion of speaking entirely consumed the limited oxygen carried by his blood.

"Did they buy out your share in the refinery?"

"Not yet. But they will. They're coming back after Christmas. Actually, after the New Year, which is a big deal in Japan. So by January you have to have this fucking tumor gone. I'll take them out again. Depending on the final terms of the buyout, I'll beat them or let them win—but only by a few strokes either way." Kirk gave me a sly, knowing smile, counting me as a co-conspirator in his plan.

His medical history contained no clue to why Kirkland Bains developed kidney cancer at the age of fifty-four. He was born and reared on an estate in Newport, Rhode Island. No one in the family was known to have suffered from diseases of the kidney or the bladder. The Bainses, over several generations, had owned shipbuilding facilities along the southern New England coast, but Kirk and his father rarely visited them. They were managed by intermediaries, and as long as the balance sheets showed healthy yearly profits his father was content to live the detached life of a man born to considerable wealth. Kirk and his mother moved in tow with his father through the ebb and flow of the social seasons: autumn in Manhattan, summer on Mt. Desert Island, in Maine, and a spring tour through the Continent.

Kidney cancer is known to be associated with a variety of environmental toxins. Cadmium, a metal used in batteries, is one of the best known of these pollutants. It had contaminated the water table surrounding many factories that carelessly dumped their spent charges into nearby rivers or buried them in the earth without putting them in sealed containers. Cadmium precipitated in the kidney, and traces of the metal could sometimes be found in the malignant cells that formed the initial seed of a cancer. Other factory materials, including petroleum products and asbestos, are also associated with kidney cancer. But when I asked Kirk about such exposures he reaffirmed that he had never "dirtied his hands" in his father's shipyards. His father had instructed him in how the business was financed, its margins and beneficial capital depreciations, asserting it was "foolish to pretend to be a worker when you're the owner's son." Anyway, Kirk went on, after his father's death, in the late nineteen-fifties, his estate had liquidated the shipbuilding interests, which was fortunate since the industry in New England had dropped way off by then.

In the past two decades, cadmium, asbestos, and petroleum products had become unusual causes of kidney cancer, thanks to stricter regulation of their industrial uses. Tobacco was now the most common predisposing factor: it increased the risk for the disease two- to threefold. The tars from cigarette smoke leached from the lungs into the blood-stream, and then were deposited in the kidneys. Kirk told me he had smoked, but only for a short time, at boarding school, and, even then, just a few cigarettes a day.

"Everyone did in the fifties at prep school," he said. "But I stopped smoking when I left for Dartmouth. Which is a bit of a blur, really. Because I majored in drinking. The diploma said 'economics,' but it was really beer. Beer doesn't cause kidney cancer, does it?"

"Not to my knowledge."

"Too bad. We could short the beer companies, then let out the bad news, and make a bundle."

"And go to jail together."

"Hospital, jail—not much difference that I can see."

He had travelled all over the world, using the funds he inherited after his father's death to establish an independent investment company that focussed on venture capital and commodities trading. Kirk had first worked out of Lagos, in the early days of Nigerian oil, when "anyone who didn't leave Africa with a few gold bars in his luggage had to be an idiot." He had spent time in Egypt and in the Lower Nile Valley, but had not contracted schistosomiasis, a parasite that infests the genitourinary system, causing inflammation and scarring of the tissues, and predisposes to bladder cancer. He had never had radiation exposure, or even kidney stones. He disliked medicines, and avoided over-the-counter analgesics for headache, which could accumulate in the kidneys and had been linked, when used regularly and in high doses, with kidney cancer.

"We Bainses are disgustingly hardy," Kirk told me. "Good protoplasm. That's why it's worth trying some magic on me."

But much magic had been tried for this particular cancer, and none of it had worked. Every known chemotherapy drug had been tested against the disease at one time or another, and the "response rates"—meaning the percentages of treated patients who had meaningful shrinkage of the tumor after therapy—were minimal. This had led researchers to ask what made renal carcinoma so resistant to the poisons that worked well against other cancers, including those arising in the neighboring ureter and bladder. Why was kidney cancer so intractable?

The weight of evidence suggested that the malignant cell that multiplies to form kidney cancer has an overactive pump on its surface. A pump called the P-glycoprotein is a normal component of the cells of the kidney. It works to expel unwanted substances that regularly cross the kidney-cell membrane and enter the inner cytoplasm. One could

understand why cells whose job was to filter unwanted and toxic wastes from our blood to form the excreted urine would be equipped with active pumps that prevented the retention of noxious molecules.

But in cancerous cells this protective armor had been made even thicker and more resilient. When the toxic molecules known as chemotherapy were sent to assault the tumor, they were easily repelled by the cancer cells—quickly pumped back into the blood-stream by the P-glycoprotein. No one had yet devised a strategy to deactivate the cancer's overzealous pump without destroying the normal one. This maddening disregard by kidney cancer of virtually all chemotherapeutic agents had led it to be labelled, in oncological jargon, M.D.R., for "multidrug resistant."

Kirk and I finished reviewing his medical history—how he returned from Palm Beach to see his internist in Tarrytown, New York, who thought the ache in his flank was a pulled muscle from too much golf. But a week later Kirk developed a fever and his urine became tea-colored, prompting the internist to investigate his complaint further.

The tea color proved to be from small amounts of blood in his urine, and he was sent to a urologist to identify the source of bleeding. A cystoscopy was then performed—a procedure involving the insertion of an instrument like a telescope through the urethra into the bladder. This had revealed nothing abnormal. So a dye study of the kidneys and then a CAT scan of his abdomen were done, to look for a site of bleeding within the kidney proper.

The urologist had broken the news to Kirk with a long preamble, explaining that kidney cancer was insidious and hard to detect, because, as in Kirk's case, it often grew up and into the abdomen, so it couldn't be easily palpated on physical exam. There was a mass, some twelve centimetres in maximum diameter, extending from the upper pole of the right kidney to the base of the liver, with tentacles of cancer that had invaded and extended along the channels of the major veins. One tentacle of cancer had tracked so far upward that it had passed the diaphragm and entered into the venous circulation of the chest. If its progress was not checked, it would soon invade the right atrium of the heart.

Kirk had been operated on during the second week of October at Yale-New Haven Hospital. The primary tumor and adjoining kidney had been successfully excised from his abdomen, and so had the malignant tentacles invading the veins. But numerous deposits of cancer had to be left behind, in the liver, the intestines, and the pelvic bones. Those deposits were too extensive to yield to the surgeon's scalpel.

"I had hoped it would be a replay of 'The Exorcist,' " Kirk said dryly. "Remember how the priest took the demon out of the child—a bloody, ugly creature? I thought the surgeon would do the same. Maybe I'd have been better off with a priest than with a doctor. Never thought I'd need the clergy. But that's what everyone is recommending now."

"Are you affiliated with a church?" I always try to learn the scope of religious feeling, the ties of the patient and his family to faith.

"Episcopalian. I celebrate Christmas. The food. The music. Decorating the tree. Giving gifts. That's fun. But the religion—I can't put much stock in a church founded because Henry VIII wanted a younger wife."

My response was a skeptical look.

"Let me put it in my own terms. I'm not a long-term investor. I like quick returns. I don't believe in working for dividends paid only in Heaven."

It was time to move to the examining room. Kirk paused and looked down sheepishly. "I need my wife to help undress me," he said. "I can't manage the belt and the pants anymore. Can your secretary call her from the waiting room?"

His wife, Cathy, a large-boned woman with rich-blue eyes, brunette hair in a pageboy cut, and a flowing flower-print dress, readily removed Kirk's navy blazer and pine-green club tie—for Dartmouth, she informed me. But the buttons on his starched white oxford shirt stubbornly resisted her trembling fingers, his ballooned, cancer-filled abdomen locking them in the taut slits of the buttonholes. "I was inexperienced when I married Kirk," Cathy said. "I guess I never really learned how to undress men."

Kirk failed to laugh with her, and a heavy silence fell over the room. Cathy finally removed Kirk's last article of clothing, a pair of blue cotton boxer shorts, and briefly exposed his fluid-filled genitals before I covered him with a hospital gown. I tied the neck string of the gown loosely, so I could maneuver my stethoscope to listen to his lungs and heart without exposing him unnecessarily.

"I'm a bag of water. Even my balls are bathed in this sewage from the cancer."

Cathy waved goodbye, with a forced smile, as she left the room. Kirk did not acknowledge her exit.

There is no avoiding the feelings of shame and humiliation caused by the forced dependency of disease. These emotions are raw at moments like this, exposed before another, even a physician. But as much as possible I wanted Kirk to feel like a person with worth and substance, not just a patient.

"Tell me more about Galveston," I said as I adjusted the head of my stethoscope and prepared to listen to his lungs.

"You invest?"

"Not like you. Fidelity mutual funds. But I'm interested in venture capital."

"Why?"

"Because it has similarities to scientific research. You try to capitalize on unique ideas by mobilizing technology, people, resources. And you need to be rigorously critical with

yourself—facing all problems and setbacks head on, because there's no room for delusion."

Kirk nodded sagely. He elaborated on the deal—how he was the first one in after he realized that oil demand would increase sharply, partly because Iraq was still shut out of the market, and partly because there was continued expansion in the economy. And now, only five months later, a lot of people wanted in, including the Japanese. Which meant it was time to get out. He was counting on a tidy twofold return.

"But there's a difference between what I do and what you do," Kirk said. "I don't give a damn about the product. In your world, it's the product that matters—new knowledge that can lead to curing a disease. For me, the product means nothing. It can be oil or platinum or software or widgets. It's all a shell game played for big money, and once I win enough I wave goodbye."

I continued my physical examination as he explained what drove him in his work: the delicious pleasure of seeing where to go before the crowd does; the challenge of making fast decisions; the fun of everyone trying to outsmart everyone else. I palpated almond-size rock-hard lumps behind his left ear—certainly deposits of his kidney cancer growing outward from the mastoid bone. His breath sounds were harsh and wheezy throughout his chest from the masses of cancer. His abdomen was bulging as if he were in the last month of pregnancy. It was filled with malignant ascites, a mixed brew of protein-rich fluid that had seeped from his liver, spleen, and lymph nodes and nourished schools of swimming cancer cells. By pressing down over his liver, I could outline the stony metastatic nodules growing out from its surface. There were several tender areas in his pelvis corresponding to the tumors seen on the CAT scan. His legs were elephantine—columns of retained fluid that flared outward at the ankles as gravity settled the edema under the weight of his upper body.

It was easy to understand why Kirk had been turned away from so many medical centers. I had to agree with the prognosis he had been given: his remaining life span was very likely no more than a few weeks. He would soon die of oxygen deprivation as the tumor replaced his lungs, or lapse into coma from liver or kidney failure as the cancer strangled these organs. As I examined him, I could feel death in the coolness of his flesh, in the sunken, jaundiced eyes, in the mottled color of his skin and lips.

But Kirk was not prepared to die. He had pleaded to be given the chance to fight. And I was his last hope. But was there really any hope to be offered?

I backtracked in my mind and looked for any opening, any opportunity to devise a therapy that might help him, even in some small way. Although chemotherapy was rarely effective, one drug, vinblastine, had been reported to work in some cases. Vinblastine is a poison from the periwinkle plant, which disrupts the cell during its mitosis, or process of division. I put its chance of working in Kirk at about one in a hundred, at best. And if it partly shrank the cancer the benefit would probably be transient, while the side effects of vinblastine could be lasting: lowering of blood counts, with predisposition to infection, and paralysis of intestinal movement, causing painful expansion of the bowel from the

pressure of its retained contents. This intestinal paralysis is called an ileus, and, with Kirk's abdomen riddled with cancer and bathed in the ascites, an ileus would be a particularly excruciating side effect.

Because men develop kidney cancer from three to five times as frequently as women, it is postulated that male hormones promote its growth and female hormones limit it. The female hormone progesterone has been reported to shrink kidney cancer in some cases. But the chances of a meaningful effect on an extensive disease like Kirk's were even smaller than those I had estimated for vinblastine. The major side effect of progesterone is hyperventilation. Because his lungs were filled with metastases, hyperventilation would be poorly tolerated: it might even precipitate respiratory collapse as his chest muscles became fatigued from the hormone— induced drive to breathe faster.

I was well acquainted with the limitations of the available therapies for metastatic kidney cancer because, four years earlier, the Food and Drug Administration's advisory committee on biological therapies, of which I was chairman, had been asked to evaluate a new approach to the disease.

In the nineteen-eighties, a naturally occurring protein called interleukin-2 was discovered to activate so-called killer T cells; in a healthy immune system, the killer cells are always on patrol, ready to destroy cancer cells should they be detected. Pioneering work at the National Cancer Institute, in Bethesda, indicated that treatment with interleukin-2 could result in regression of some cases of kidney cancer. That finding prompted widespread testing of interleukin-2, and ultimately an application to the F.D.A. requesting its approval in the disease.

It was our advisory committee that the F.D.A. convened to act as an independent assessor of the benefits and risks of interleukin-2 treatment for kidney cancer. The assessment provoked a heated and trying debate. All of us on the committee were acutely aware of the absence of good therapy for this particular malignancy. But interleukin-2, though a natural product, proved to have severe side effects when it was given in the large doses apparently needed to stimulate killer T cells. Most patients who were treated developed spiking fevers, whole-body rash, and severe cardiac and pulmonary toxicities, with leakage of fluid from the circulation and precipitous falls in blood pressure, causing shock. And the tumor responses, although occasionally dramatic, were generally of short duration. Moreover, regressions of the cancer were usually seen in people with limited metastatic deposits, and not in people with the kind of extensive disease and organ failure Kirk had. Only a small subset of kidney-cancer patients was likely to benefit from the treatment, though, with the high cost of toxicities. The initial optimism about interleukin-2 had waned.

Our advisory committee finally decided to approve interleukin-2 in the United States but to recommend its use only in that small subset of patients without extensive disease, and to emphasize the necessity of careful monitoring. We felt it important to provide access to the protein for those who might benefit, even if the chances were small, because there were no other real options. By recommending its limited use, we intended to spare the

larger population of kidney-cancer patients the protein's toxic effects and unlikely benefits.

"Make me a guinea pig," Kirk had said.

Did he really understand what that meant? Clinical experimentation was a powerful engine of progress in modern medicine. It was necessary for successfully translating basic-research discoveries from the laboratory into bedside treatments. "Informed consent" was the underpinning of ethical clinical experimentation: the free consent of an understanding patient was required before any trial test of unproved therapies. But could Kirk soberly assess the considerable risks and minimal benefits? How rational can our decisions be when we are desperate and feel unprepared to die? What's more, Kirk didn't fit into any ethically and scientifically reviewed research protocol at my Harvard hospital or at any of the prestigious cancer centers he had already visited. He was too sick, too advanced in his disease—a so-called outlier, in the crude terminology of clinical trials, who was unlikely to benefit, and would very likely suffer side effects. His failure to qualify as an appropriate research subject was the reason that others had turned him away.

I looked at Kirk's jaundiced, bloated form before me, trying to read something beyond the obvious, beyond what the laboratory tests and the CAT scans and the physical exams had already written. And I saw in his eyes a deep determination not to give in, despite what he must have realized long ago—that his situation was terminal, that there was no known effective treatment. I didn't know yet why he wanted so much to live. It was too early in our relationship for me to probe. But I felt the energy that remained within his failing body—the force he had tried to convey when he shook my hand, the intensity in his voice when he detailed the Galveston deal, and even the powerful resentment of Cathy's efforts to undo his clothes.

And I looked hard into myself, trying to make sure that what I might do would be for him, not for me. A real chance of helping Kirk was needed to justify treating him. But what kind of odds constituted "a real chance"? Was one in fifty enough? What if Kirk's chances were one in a hundred or one in a thousand? Where was the end- point in this calculus? Kirk was right: I was his last hope. And his chances were not zero. But I had to be sure that he understood—as well as a frightened and desperate person, facing death, could understand—what treatment meant. I called Cathy back to make sure, and we convened in my office. This time I didn't sit removed, behind my desk, but, rather, at the apex of a triangle formed by our three chairs.

"Kirk, remember my telling you that I'm not a magician or a wizard."

I saw his face drop with the anticipation that what would follow was another rejection, an exile into hopelessness and certain death. Cathy reached to hold his hand, but he withdrew from her attempt at comfort.

"I wish I were. I wish I could be the alchemist who makes gold from lead, who could transform your cancer cells back to normal. But I'm not. No one is. We, together, have to

weigh what is known and what is unknown, and come to the best decision for you. And a wizard's smoke and mirrors couldn't hide the conclusion that there is no effective therapy for most people."

I paused, to make sure that he and Cathy were taking it in, and then went on: "The treatments that are given work only rarely in cases like yours, because your disease is so extensive and your organ function severely impaired. The treatments can have terrible side effects. They can increase your pain without benefitting you. They might even shorten your life. Bluntly said, the treatments might kill you without helping you."

Cathy winced at this statement. Kirk did not react.

"And, if you are treated, then it's outside any scientifically and ethically reviewed and approved protocol. We will, of course, follow the principles of such protocols, but you take unknown risks and have to realize we're flying by the seat of our pants without much precedent."

"May I interrupt?" Kirk asked politely.

"Of course."

"Jerry, I'm a damn successful venture capitalist. And I know what a lousy investment I am. The time on my mortgage is almost up. I have no inventory left. And this fucking cancer is taking my market share, meaning my life."

Cathy's eyes filled with tears. I reached over for a box of tissues on my desk and handed them to her.

Kirk gave her time to compose herself, and then went on, "But I'm willing to fight, to my last breath, to try and make it. If you will help me, I'll undergo anything. The worst side effects. They can't be worse to me than -- he paused -- than being dead. I'm tough as nails, in business and most other matters. My whole life, I haven't really depended on anyone but myself. Cathy can tell you that I'm a pain in the ass, full of piss and vinegar. I'll hear you out, Jerry, if it makes you feel better. But my mind is made up to go for it. What the hell? What other options do I have -- consult with William?"

"William? Who's William?"

"William is an Englishman in his seventies in Jupiter, Florida—where my mother and her rich-widow cronies live. He's a faith healer, a charlatan. He's also a gigolo. First he sprinkles herbal powders on the widows, then he screws them. That cures their aches and pains. Mother is insisting William come to heal me. She wants to fly him to New York if you turn me down. Are you going to force me to see William?" Kirk smiled.

I smiled, too, and realized, at that incongruous moment, that Kirk was capable of making rational choices, that it was his right to fight, despite the odds.

I admitted Kirk directly to the hospital from my office. He was too sick to return home to Tarrytown, and if we were going to treat him we needed to start immediately.

The battle was now joined, and I could feel between us the electric exhilaration that flows through soldiers who decide to charge forward together into the unknown. We pumped each other up with the medical equivalents of war cries. We would fight with all the weapons in our armamentarium, using a strategy to maximize their meagre benefits and minimize their considerable risks. I would give Kirk interleukin-2 for five days, which was the schedule approved by the F.D.A., but would give it in lower doses; I hoped that they would still be enough to activate his killer T cells but would not send him into shock. And with the first dose of interleukin-2 we would give him a single dose of vinblastine. Again, because of his condition, I calculated a modification of the dose to avoid side effects. If these first two treatments went well, he would begin daily progesterone.

Later that night, when I decided to return to Kirk's hospital room, my euphoria had begun to wane. Perhaps I had endorsed unrealistic hopes, despite what Kirk said about understanding the odds and the likelihood of side effects.

I returned to check that everything I had ordered for the treatment had been set in motion, and to speak with Kirk once more about our decision. Cathy had already left for Tarrytown, to bring back things Kirk wanted for the hospital stay. I assumed that he would have finished dinner and would be preparing to sleep after such an exhausting day. But when I looked into his room I saw all the lights on, the TV playing, and Kirk sitting upright in bed, wide-eyed.

"Ready for tomorrow?" I asked.

"Absolutely, partner."

I suggested that he go to sleep after we talked. I had prescribed a sleeping pill if he needed one. Should I ring the nurse to leave it at his bedside?

Kirk vigorously shook his head. I saw his hand begin to tremble, and reached for it, noting that it had a cool, clammy texture, despite the warmth of the room and the blankets that were pulled around him.
We sat together without speaking. Finally, I asked, "Are you thinking you could die tonight? You won't, Kirk."

Kirk pursed his lips, containing his emotion. I gripped his hand more tightly.

"So you're a prophet, not a wizard. Shall I call you St. Jerome? I like that name. St. Jerome."

I smiled uncomfortably. "I'm hardly a saint. And certainly no prophet. But you're in a hospital, being closely monitored. We won't let you slip away."

"I didn't expect to be so afraid, Jerry." He paused. "I'm not sure why. I rarely feel afraid. Maybe it's because I know that this is my last chance and I'll probably die, and after death . . . It's just nothingness."

Now I thought I understood why he had insisted on treatment. "So then it would be the same as before we were born," I said. "Is that terrifying, to be unborn? That's what my father used to say to comfort me as a child when I asked him about death."

Kirk said, "See if you still find that enough comfort when you're the one in this bed. Nothingness. No time. No place. No form. I don't ask for Heaven. I'd take Hell. Just to be."

I thought again about those words the next morning, as an amber autumn sun filtered through Kirk's window and warmed the room. Tricia McGann, a vivacious, curly-haired chemotherapy nurse, was reviewing with Kirk and Cathy the details of interleukin-2, vinblastine, and progesterone—the schedule we had devised—for their combined use and their expected side effects.

"I'm ready to be deep-fried," Kirk answered when I asked once again for a clear statement that would constitute his informed consent, with Tricia as a witness. I created an ad-hoc document and inserted it in his medical chart, written in the style of an informed consent that would ordinarily accompany a formal clinical-research protocol.

The unknowns of biology and medicine exist at every moment for every patient and every doctor. But here, in Kirk's case, they were present in the extreme. We would be mixing together three drugs that had never been mixed together before—not in this way, at these doses, on this schedule, and certainly never in this individual, in whom the metabolism and circulation of the drugs would be unpredictably altered by a failing liver, a rising level of serum calcium, a single functioning kidney, and a slowed circulation.

But while he was in Tricia's hands it was safe for me to detach myself from the issues of his disease and its impending treatment, and to return to the scene of the night before. I thought again about how much I had experienced of death, from the moment I watched my father die to now, each day in my work. I thought about how we all develop our own inner pictures of death and an afterlife, from the stories and words we hear as children, which form our first image. As we pass through life, we redraw these images, hoping that at the end we will be prepared for what awaits.

My childhood concept of death, as I'd told Kirk, came from conversations with my father. He had subscribed to the most ancient Jewish concept—that there is no Heaven or Hell, no state of conscious existence similar to the one we enjoy in this life, and that what awaits us on the other side of life is vague and indescribable, a sense that in some way we are reunited with the divine energy of God that permeates the universe, but in a form that we cannot imagine or grasp. My father's focus was on memory—that existence is perpetuated in the hearts and minds of the people who remember those who are gone.

That was the only notion of immortality he could conceive. "I will live on in my children," he would say.

After my father died, it was impossible for me to imagine him as disintegrated into nothingness. Perhaps for that reason, I rarely visited his grave. It was too painful, too stark an image in my mind, that his body, the warm, expansive body that had snuggled me in bed when I was fearing the shadows of the night, had held me up in the water when I was learning to swim, had embraced me with surprising strength when I succeeded and with even greater strength when I failed—that that body was now inanimate matter, dispersed in the soil as atoms of carbon and nitrogen, hydrogen and sulfur. And nothing more.

I hoped that when my time came I would not lie terrified in bed, like Kirk. I hoped that my intimate relationship with death, beginning with the death of my father and extending through the deaths of so many of the patients I had cared for, would somehow lessen the fear, and allow me to face the unknown with the sense that others had gone before me, and that all those I now knew would follow. At some future time, I might talk about some of these thoughts and feelings with Kirk. But this was not such a moment, because we had stubbornly "decided" not to surrender to the inevitable. I needed to help Kirk concentrate his energies on the battle that loomed, and bolster him to resist the toxic blows of his treatment—particularly the interleukin-2.

"Ready to fight, Kirk?"

"Absolutely. I'll surprise you. There'll be a tenfold return on your investment."

"I like that kind of payout. Much better than my Fidelity funds."

When I care for a patient, I have noticed, a metaphor sometimes emerges that draws on a unique element in the patient's work or family or cultural heritage. Throughout the relationship, when we assess an option or embark upon it, when it succeeds or it fails, when we enter remission and resume living or acknowledge that our therapy has not succeeded and that the end is near—at each critical point, we invoke our metaphor. It becomes our intimate form of communication, drawing us closer, like children who invent a secret language, or siblings with special words and phrases that have resonance for them and no one else.

Kirk and I had created our metaphor after only two days, and I believed at this moment that it was a good one for his condition. He would gain strength from returning to the images that had spelled success in his life. He could again be the triumphant contrarian, betting against the market's prevailing wisdom, and proving to the world that the commodity of his life had a future.

As expected, Kirk developed a high fever and severe shaking chills from the interleukin-2. On the third day of treatment, his blood pressure dropped precipitously, and we had to infuse fluids to support his circulation. He developed a blistering rash as well, and needed

steroids to calm his angry skin. On the fourth day, his wheezing worsened. A chest X-ray showed seepage of fluid from his circulation into his lungs—a state called pulmonary edema. I feared we would need to insert a breathing tube and place him on a respirator to support his oxygenation, but, luckily, we did not need that invasive measure, managing instead to provide oxygen through a face mask and to relieve the spasms in his airways with adrenaline-like drugs and high doses of diuretics.

I had been extremely careful about his dose of vinblastine, because that drug is excreted from the body through the bile, and, with his jaundice and liver dysfunction, there was a risk of its accumulating to very toxic levels in his system. Despite the modified dose, his blood count fell from the vinblastine, so we had to administer the white-cell booster G-CSF, and it gradually returned his neutrophil count to safe levels.

On the fourth day, Kirk had copious bleeding from his colon. A vessel had probably been eroded by a growing deposit of kidney cancer penetrating the bowel. He needed to receive a transfusion of six units of red blood cells before his anemia was reversed. Shortly thereafter, he developed an ileus—the ballooning of paralyzed intestine from the vinblastine—and we were forced to pass a long tube through his nose, down his esophagus, and into his bowel to decompress his painfully swollen abdomen.

Through all this, he did not complain. Cathy sat at his bedside, occasionally trying to distract him with idle chatter but more often in silence, reading a novel or working on needlepoint. I visited him several times a day, both for emotional support and to keep close track of his tenuous medical state.

Kirk and Cathy had two children, Roanna and Paul—one a docent at a museum in Philadelphia, the other working at a small marketing firm in Chicago that was run by a Dartmouth classmate of Kirk's. I offered to speak with them by phone, but Cathy said that wasn't necessary. In private, I emphasized to Cathy again that Kirk could die at any time, from the side effects of the treatment or from the rapidly advancing cancer, and that there might not be another opportunity for their children to visit him. Cathy said she knew that, and so did the children, but dropping everything would disrupt their schedules and probably only upset Kirk, leaving him to think they'd been summoned for a final deathwatch.

Kirk slowly recovered from the toxicities of the interleukin-2 and the vinblastine, and after seven days he was discharged from the hospital. He began the daily progesterone. He was even more debilitated than he had been before he began the treatment. We decided that it was prudent for him to stay close by for regular monitoring, so he and Cathy moved in with Kirk's cousin Grant, in Cambridge.

When I examined Kirk the week after his discharge—some fourteen days after he took his first dose of interleukin-2—I thought he looked less jaundiced, but indoor fluorescent lighting often distorts the true intensity of jaundice. His liver seemed smaller. Its rock-hard nodular edges were softer, more pliant to the palpation of my fingers. And his edema was definitely reduced. His abdomen was less distended, and I could now encircle

his ankles with my hands. Kirk confirmed that he hadn't taken any diuretics to reduce his edema since his discharge from the hospital.

I felt a growing excitement that the treatment might be working—that this massive, aggressive monster of a cancer was yielding, retreating just a few inches, from its onslaught.

"Let's get a chest X-ray and a full panel of blood work today," I said to my secretary as I finished my exam.

"I thought you were going to wait until next Friday for the tests," Kirk interjected.

"I sense a drift in the market," I replied. He waited for me to elaborate."You know, Kirk, I follow your lead. I'm a momentum player. If there's going to be a change, why not find it out earlier rather than later? We'll better leverage our options that way, don't you think?"

Kirk tried to contain his growing smile, like a poker player opening his cards and seeing that the first two are aces, and wondering how much luck he has had. "Sure, we should play it at max leverage," he said. "No other way to play with odds like this. But I thought, Jerry, that we did it all on the first tranche—there was nothing left in the kitty."

"Do you think I can't find some new capital? We don't need to stick to the exact plan if there's some news to make a fast move. So let's increase the doses of interleukin-2 and vinblastine, and give them both ahead of schedule."

"That's what you meant before by upping the leverage? I'm game. Let's go for it all."

An hour later, Kirk and Cathy stood beside me as I mounted his new chest X-ray on the view box next to the one taken fourteen days earlier. The opaque circles that had filled the black space of Kirk's lungs still hung like moons frozen in orbit, but they had become smaller. No question about it. I took a ruler and a pen, and measured each metastasis. Most were reduced by more than half. I also pointed out to Kirk and Cathy that the mountain of cancer-filled fluid above his diaphragm was almost gone—just a trace lip remaining, which curved up in a weak snarl. The objective evidence was indisputable.

"It's melting away!" I called out. I surprised myself and Kirk and Cathy by drawing them into a three-way hug, almost knocking an unsteady Kirk off his feet with the sudden and forceful pull.

"Wasps aren't used to so much emotion," Kirk said after wiping his tear-stained cheeks with the sleeve of his shirt. "Well, St. Jerome, there you are. A miracle before our eyes."

It felt like a miracle. The cancer had seemed invincible, but had fallen like Goliath before our hastily made slingshot. What could explain this stunning outcome?

Kirk's immune system might be exquisitely sensitive to the interleukin-2, his killer T cells activated to the extreme of biological potency. The cancer might have an unexpectedly feeble P-glycoprotein pump, and have become stuffed full of vinblastine, unable to expel the toxic agent. Or the surface proteins that trap progesterone might be robustly displayed on the kidney-cancer cells, rendering the cells unusually susceptible to inhibition by this hormone. Additional study of Kirk's T cells and his tumor in the laboratory might shed light on these possibilities or give entirely new insights into kidney cancer and its therapy. Medical science delights in understanding the exceptions to the rule and, from such new knowledge, broadening the scope of its effective treatments. Kirk's case could serve as more than an anecdote.

Kirk underwent three more courses of interleukin-2 and vinblastine while continuing the progesterone. He gradually regained his healthy form, as though he had been living in a fun-house mirror and had now stepped out of it. The protuberant abdomen filled with malignant ascites resumed its normal flat contour, the accumulated edema in his legs disappeared, and the stone-like nodularities of his liver melted into the smooth and compliant edge of a healthy organ. We repeated his X-rays and CAT scans. The dozen metastatic deposits that had studded his lungs were entirely gone. The ragged lacunae where the cancer had been eating into his pelvis were being filled with healthy, calcified bone. He had entered a complete remission, with no evidence of residual disease.

Kirk's case became the talk of the hospital. The internes, in their monthly clinical-case conference, presented him to the chairman of the Department of Medicine as a "fascinoma." A fascinoma is medical slang for a fascinating case that, because of its rarity, its course, or its outcome, lies outside the usual boundaries of medical experience.

After the case presentation, I received choruses of praise from my colleagues and the medical team. Although I rejoiced in the result, of course, I took no real credit for it, because what had occurred was not the product of wisdom. It was more like playing a slot machine with one silver dollar left in your pocket, figuring that you were going to lose but that you had lost so much already you might as well play it down to the last. I deserved no praise for being lucky. If I could go back to the laboratory and determine why this wildly aggressive cancer in this particular man had melted away, and then use the knowledge to create new treatment strategies that would help others, then congratulations really would be in order.

As Kirk and Cathy prepared to move back to Tarrytown after two months of recuperation in Cambridge, we sat in my office again, reviewing the schedule of return outpatient visits interspersed with weekly checkups by his internist at home.

"Ready to return to real life?" I asked.

Cathy forced a smile.

"I guess so," Kirk offered, without much conviction.

"It's natural to feel unsettled at this juncture," I assured them. "You've been umbilically tied to me and the hospital for months, and now you worry that the cord is being cut. It's not really being cut—just stretched a bit, from Boston to New York. Each day, it will become easier. You'll gain confidence that you're stable and that no catastrophe will occur out of the blue."

Kirk looked glumly away.

"You're still shell-shocked, Kirk," I said. "You've been entirely focussed on one thing, the war with your cancer and living in the trenches of the hospital and the outpatient clinic. Everything else—your work, your social life, your recreation—was suspended. And, frankly, no one thought you would so quickly and so completely eradicate the cancer. It's normal to feel unsettled. But now you'll return home and see that you can resume your prior life."

I spoke with them every day for their first week at home, and then spaced out the calls to every other day during the following week. We would try to speak just before lunch, because, as had been expected, Kirk was still exhausted from the hospitalization, and couldn't make it much past noon without a long nap. Cathy and Kirk were always both on the phone. We would first go through a checklist of symptoms and, once satisfied that nothing new or worrisome had occurred, discuss how much exercise Kirk had been able to tolerate that morning. He was making good progress—taking daily walks, negotiating the three flights of stairs in their home, and sitting for an hour at the breakfast table. When Kirk expressed frustration at how little he could do compared with his former schedule, I reëmphasized the point that this would be a long recuperation. He had absorbed many body blows, first from the cancer and then from the therapy.

"He won't read the newspapers," Cathy said as we were closing the call at the end of his second week home. "Kirk used to devour them. We take three—the Times, the *Wall Street Journal*, and *Investor's Daily*. Now I bundle them unread for recycling."

I asked Kirk if the reason he couldn't concentrate on the papers was that he was inattentive or felt slow of thought—possible signs of depression.

"Not at all," he replied.

I probed further, because depression is common after severe illness. Was he waking up early in the morning, anxious and unable to return to sleep? Were his bowels irregular or his appetite poor?

"No, none of that, Jerry. I don't think I'm depressed. It's just that the information in the papers doesn't seem important anymore."

I saw Kirk every two weeks for the next three months. His physical functioning returned more quickly than I had expected. He was able to travel from Tarrytown to Manhattan a few times for business meetings to close deals, was playing nine holes of golf on weekends, and was planning his first trip away over Easter, to visit his mother in Florida.

All seemed in order, an uncomplicated recovery. But I did note that in our conversation his tone was less assertive: the piss and vinegar had given way to bland, disconnected phrases.

A month after Easter, I saw Kirk at a scheduled appointment. After talking about the fine weather they had enjoyed in Jupiter, he said, almost in passing, that he had a persistent pain in his back.

"I played a set of tennis the last day I was there, on a hard court, and twisted my back going for a down-the-line return. I thought it would pass with a warm compress and a few shots of bourbon. But it hasn't."

I noticed then that his face was drawn and his tan not as rich as you would expect in someone who had spent several weeks in Florida.

In the physical exam, I could not hear breath sounds at the base of his right lung. On his inner left thigh I felt a hard nodule, the size of a quarter, that was fixed to the underlying muscle. When I pressed on his lower spine, he winced. After having him lie supine, I extended his right leg and lifted it in the air. This maneuver triggered an electric pain radiating down to his toes.

Even before the blood tests and X-rays were done, I knew that the cancer had returned. I sensed that Kirk knew it as well.

"The back pain came on three weeks ago? Why didn't you call me from Florida?"

"And ruin the vacation for Cathy and the kids? And scare the shit out of my mother? It won't matter, waiting to see you and being told it's back."

"It likely is," I cautiously replied, not having direct confirmation by tests or biopsy but being unable to think of an alternative explanation—particularly for the nodule in the soft tissue of his thigh. "But we need to be sure by X-ray. And it does matter. If it's pressing on the nerves in your spine, you could lose strength in your legs."

"Legs working, legs not working—it doesn't much matter if you're dead."

I looked at Kirk in surprise. His attitude was a hundred and eighty degrees from what it had been at the onset of his disease. Had we both struggled so hard just to reach this state of despair?

I explained that it did matter if his spinal cord became compressed, even if we couldn't ultimately defeat the cancer. To spend the time that was left paralyzed and incontinent would be a miserable end. Remember, I argued, the biology of your kidney cancer is capricious. Its quirky character might once more play out in our favor. It had an Achilles' heel that we should try to hit again. It was premature to surrender without a fight.

"O.K., Jerry, run the tests. Do what you have to do. I'll humor you."

I didn't have time to explore the causes for his resignation further. I needed to arrange an M.R.I. scan quickly, to assess his spinal cord and brain. In the face of a possible spinalcord compression, every hour is critical, since the paralysis and the incontinence can be permanent. I was also concerned about his brain. I wondered if his apathy was caused by a metastasis to the frontal lobe, which can blunt the sharpness of one's personality like a surgical lobotomy.

I alerted the staff in radiation therapy that my patient might need emergency treatment. Should the M.R.I. show metastases to the spinal cord, we would have to deliver high-dose radiation to burn the tumor and release its strangling grip on his nerves.

That evening, I visited Kirk in his hospital room—No. 706, the same one he had occupied during his treatments. He was lying on his side, in a fetal position, his knees drawn up to his chest so as to avoid stretching the inflamed nerves from his spine by extending his legs.

He had already received his first radiation treatment. Cathy had just left to spend the night in Cambridge with Grant and his family. I had talked with her by phone briefly, and she had seemed to understand that we'd reached the limits of hope. I explained that, while there were no brain metastases, the cancer had grown through his vertebrae and begun to wrap itself around his spinal cord. Radiation would, if we were lucky, prevent paralysis and incontinence, but there was no chemotherapy or biological treatment that was likely to arrest the cancer in the central nervous system permanently. I asked if she wanted to be present when I gave Kirk the news.

"You tell him alone," she said. "Kirk is more candid about this with you than with me."

Now I sat by his bedside, my eyes level with his, and for a long time we were silent, absorbing the indistinct sounds that filtered into the room from the hospital corridor. "I'm sorry the magic didn't work longer," I finally offered.

"It did more than anyone expected, Jerry. But you shouldn't feel sorry. There was no reason to live anyway."

What had happened to the Kirk Bains who was so desperate to live that he had tried to persuade every consulting oncologist to treat him?

"You closed a few more deals," I said. "Cathy and the children and your mother had you for four pretty healthy months."

"You read newspapers?" Kirk asked abruptly. I recalled Cathy's comment that Kirk had used to devour them but stopped reading them when he returned home. I didn't know where Kirk was headed, but knew I had to follow.

"Sure."

"I don't read newspapers anymore. I don't know how to. Or why I should." Kirk paused and his voice lowered. "Newspapers used to be a gold mine for me. They're filled with disconnected bits of information—a blizzard in the Midwest, the immigration debate in California, the problems of West Germany absorbing East Germany. For you, Jerry, those articles might be about the lives or fortunes of individuals and nations. For me, they mean nothing beyond information for deals and commodity trading. I never really cared about the world's events or its people. Not deep down inside."

Kirk stared coldly into my eyes.

"And when I went into remission I couldn't read the papers because my deals and trades seemed pointless, because I was a short-term investor. Like I told you, Jerry, I had no patience for the long term. I had no interest in creating something—not a product in business or a partnership with a person. And now I have no equity. No dividends coming in. Nothing to show in my portfolio." Kirk grimaced with pain. "How do you like my great epiphany? No voice of God or holy star but a newspaper left unread in its wrapper."

I tried to say that he was being too harsh with himself, and that people often find it difficult to readjust after the shock of severe illness.

"Don't try to soften it, Jerry. And don't write me off as depressed, because I'm not."

I asked about Cathy and the kids. Hadn't he enjoyed the time with them?

"They'll be fine without me," he said.

I was at a loss for words, because I feared he might be right. I had been amused by his biting wit and sarcasm, but beneath those quips I had never been able to see what he truly believed in.

"Jerry, you realize I'm right," Kirk said. "The remission meant nothing, because it was too late to relive my life. I once asked for Hell. Maybe God made this miracle to have me know what it will feel like."

I felt the crushing weight of Kirk's burden. There is no more awful death than to die with regret, feeling that you have lived a wasted life—death delivering this shattering final sentence on your empty soul. For a moment, I was gripped by the fear that I, too, might one day feel this way. I believed that my life was richer than Kirk's, my love and appreciation of my family, my friends, my work giving it substance and meaning. But there was much that lay ahead—children to bring up, work to do. And I had witnessed countless times how so much that had been created and enjoyed could be destroyed or lost.

But how could I help Kirk at this stage? What more could I say? I thought about my father's belief in memory as our one trump card against death, and realized that Kirk could still redefine himself with words even if there was no time for deeds.

"Have you thought about telling Cathy and the children what you've told me?" I gently suggested.

Kirk recoiled. "Why? So they can hear what they already know? That I was a self-absorbed, uncaring shit? That's really going to be a comforting death-bed interchange."

"Kirk, you can't relive your life. There is no time. But Cathy and Roanna and Paul can learn from you. And when you're gone the memory of your words may help guide them."

Kirkland Bains died in a hospice in Tarrytown on May 8, 1995. A private funeral service at the Episcopal church in Hastings-on-Hudson was planned. Cathy called and explained that it was to be strictly family. She thanked me for everything I had done, and said that I had been very important to Kirk. She and the children would travel to Florida and, with Kirk's mother, inter his ashes there. She said she had been at his bedside through the night, and she sounded drained. She didn't volunteer anything more, and I didn't probe further into what was said before Kirk's passing.

After Cathy's call, I put aside the paperwork on my desk and took a moment to offer a prayer, as I always do when a patient of mine dies. I prayed that, before his passing, Kirk's soul had found some comfort, and that if there is a beyond it would be at peace. Then I composed in my mind a eulogy—addressed, as eulogies are, to the living. The words I chose were not from a holy text but from Kierkegaard: "It is perfectly true, as philosophers say, that life must be understood backward. But they forget the other proposition, that it must be lived forward."