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THE CANCER SURVIVORS

AND HOW THEY DID IT

KATHLEEN GLASSMAN

THE DIAL PRESS NEW YORK
105 Madison Avenue
New York City, New York 10016

THE CANCER SURVIVORS

AND HOW THEY DID IT

JUDITH GLASSMAN



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Antioch's Gift

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To GRAIR

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With their assistance, and the encouragement of simple, innocent, Nigeria Wylie, and Mary Miller, are we this time, independent, at a time when book publishers seem to be "Curious books don't sell." That last enthusiasm came from "They Don't Like Us," which appeared in *Family Circus* in February 1968, was a powerful confirmation, that this book was needed.

To John Bonchman and Barbara Morrison, my agents, my thanks for their understanding and writing.

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To John Brockman and Katinka Matson, my agents, go thanks for their understanding and ability.

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When people learned of the subject I was working on, they often asked if I didn't find it depressing. It never was. And that was because of the vitality of the people I was privileged to meet: cancer workers, cancer patients, and cancer survivors. I am enormously grateful to the physicians and researchers—traditional and unorthodox—who patiently answered my questions and helped to educate me in this huge field. With great kindness they combined brilliance of thought and a tough-minded dedication to their sometimes unaccepted visions. From the bottom of my heart I thank the many cancer patients and survivors who shared their experiences so generously. Their stories displayed a spirit and a commitment to life that was moving and inspiring. The lessons cancer workers and survivors taught me—and through this book will teach others—will help us all for the rest of our lives.

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INTRODUCTION

Cancer—a word that strikes fear in the hearts of almost everyone. It is a rare person, indeed, who has not had someone close destroyed by this dreaded disease. My exposure to cancer was extremely limited until 1974, when my own mother was diagnosed as having a large, inoperable glioblastoma multiforme—a brain cancer with the worst prognosis. After being apprised of the hopelessness of the situation with orthodox medical modalities, I threw myself into learning as much about the alternative methods as I could. As a fully trained and Board-certified psychiatrist, I had found myself getting involved in the effects of nutrition on health and disease in the early seventies. During my mother's illness I looked into many of the methods discussed in this book, including the Hoxsey tonic, Laetrile, the vaccine developed by physician Virginia Livingston, the nutritional program of the late German physician Max Gerson, and the immune therapy of Lawrence Burton. Attempts to combine what seemed to be the best of some of these methods failed to save my mother, and she died later that year. Nevertheless, I had learned of patients who had done well on these programs, and I became convinced that many of these modalities had value for cancer patients.

Since that time, cancer patients have constituted a small portion of my practice. I've made available some of these modalities either instead of, or more often, along with the orthodox modalities

that the patient is receiving from oncologists. I have often recognized the need for a book that could give an objective view of the choices available for cancer patients, as well as important educational elements necessary to help the patient survive.

Judith Glassman has written a book of interest to everyone, but especially to those people suffering from cancer and the health care professionals who help them. This book provides a close look at the alternative cancer therapies—their successes and failures, their underlying rationale, and the growing body of medical research that supports their conclusions.

The Cancer Survivors and How They Did It offers a balanced view. It is open to the alternative approaches, but at the same time presents critical opinion of some of the aspects involved.

Judith Glassman has done her homework. She has obviously reviewed significant medical and psychological literature in the field of cancer and has also carried on intensive interviews with cancer patients, physicians, and healers working with cancer patients, and most important, with long-term cancer survivors.

Throughout there is an emphasis on people taking charge and responsibility for their own lives. Education is paramount, and Judith Glassman supplies the reader with a great deal of information, facts, and figures, as well as intelligent discussion. She freely discusses limitations and points out the degree of certainty in her statements, separating fact from conjecture.

The most significant contribution of this book is that it discusses the factors common to all cancer survivors: a faith and belief in survival, a refusal to accept death, a deep feeling that life is worth living, the importance of setting goals—and an understanding of how very vital it is for patients, families of patients, and clinicians to be aware of these. *The Cancer Survivors* points out the necessity for clinicians to understand the delicate line between giving patients accurate information about their illness and at the same time maintaining hope.

This book will help to bridge the gap in communication that exists between the orthodox and alternative points of view. What is needed is unbiased, open-minded communication, new and innovative ideas and approaches, and a tolerance for unconventional thought.

I wish personally to thank Judith Glassman on behalf of myself,

my staff at Mountainview Medical Associates, and all of the patients to whom I shall recommend this book.

Michael B. Schachter, M.D.
December 1982

THE CANCER
SURVIVORS

THE CANCER SURVIVORS

Photographer Phoebe Phillips stands in the doorway of a home, protecting the camera from the bright sun that filters through the large windows. She waits, uncertain what to expect. Her subjects are returning from an outdoor walk, an activity that's become an established routine since the loss of several close relatives. They share stories about their walk on this new day.

Barbara Johnson, 64, looks down, her hands clasped. "I'm going to sit down," she says, her voice failing.

Her husband, Michael, 64, looks down at his wife and reaches up to support her. They are surrounded by a group of home health care workers, volunteers, family members, friends, neighbors, everyone in the Johnsons' new neighborhood.

"They're just so nice and kind," Barbara says, her head bowed down the man's. Almost immediately, a place opens up in the room and two other women walk in, offering their help to Barbara and Michael.

The women stop to look through bookshelves. Their hands move slowly in her direction, their palms flat against the pages. Barbara's left foot begins to move forward, each toe on the ground catching the page through the fibers again, uncurling the fingers, moving from different areas, behind her, between her hands, and now back towards another. Overhead, rows of bookshelves, one floor up and off, all around her. Bookshelves leap from her left shoulder to another.

1.

THE SURVIVORS

Photographer Barbra Walz walks slowly on the strip of carpet that's protecting the pristine floor from street shoes. She's about to step off the carpet when Ina Saltz, associate art director for *Cue* magazine, in stocking feet, runs up to her. "You'll have to take your boots off. They don't want anybody to walk on this new floor."

Barbra shakes her blond head. "Got to keep my boots on."

"Oooooooh, I forgot," Ina says apologetically.

Barbra can't take off her boots because her left leg is an artificial replacement for the leg she lost in 1965 to osteogenic sarcoma—a type of bone cancer that strikes mainly young people. But, like Ina, almost everyone who knows her forgets that.

"They've got to let me on the floor. Steve can put something down for me." Almost before Barbra finishes speaking, her assistant has rolled out more carpet strips for her to walk on.

Barbra stops to look through her Nikon, then walks a few steps more in her deliberate, slow pace—right foot down, up on her toes, left foot swings forward, rests on the ground, right foot up. She peers through the Nikon again, examining the big new roller rink from different angles. Behind her, carpenters hammer and saw and electricians solder. Overhead, rows of neon fluorescents flash on and off. All around her disco songs leap from one loudspeaker to another.

Barbra is oblivious to these last-minute preparations for the glittering opening-night party of Manhattan's Roxy Roller Rink. She concentrates only on what she sees through her lens, selecting the best place to shoot a group of roller skaters for *Cue* magazine's New Year's issue.

She chooses a spot, Steve sets up a tripod and her Polaroid, the disc jockey pumps in "Dance Forever," and twenty-five roller skaters swarm onto the floor, leaping, turning, shimmying backward, snapping their fingers, waving their arms, an explosion of peacock blue, hot pink, bright orange, red, and green. Barbra shoots some test Polaroids, then turns to watch the Village Wizards glide by arm in arm and do a choreographed routine that ends in a split.

She shoots the split, a second setup, and a third.

"Okay," she calls to two of the skaters. "Ariel and Bobby, come to the front and do a little dance. Yeah, yeah, do that again," she calls happily, waving the other skaters forward. "Everybody else come back and dance. Keep coming everybody, wave at me, look at me. Good, good. That's it."

Barbra had started setting up at five o'clock. She was finished shooting by 7:15, the pictures were printed, delivered, and chosen by the next afternoon, and Barbra was ready for her next assignments: the last photographs for an ad campaign introducing Polaroid's new color film, three days of location shots for Gray Advertising, then off to a week in Georgia for *Town and Country* magazine.

With her generous grin and enormous green eyes Barbra is as vividly photogenic as any of the models or celebrities she shoots. At thirty she's already a top on-call photographer, with unquenchable ambitions for more. Her energetic pictures frequently appear in *The New York Times Magazine*, *New York* magazine, *Cosmopolitan*, *Town and Country*, and are used in major advertising campaigns. She travels extensively to shoot promotional photos for important movies such as *Prince of the City*. She took several months off during her pregnancy in 1982, but three months after her daughter Jersey was born, she began working again, her first assignment a major beauty piece for *Self* magazine.

Barbra's success—and the ambition and drive that fuel it—grow, she says, out of her experience with cancer. When she was a fourteen-year-old sophomore in a New Jersey high school, her major interest was a growing fascination with fashion. "I was a shy kid,

mousy, very ordinary, kind of middle class," Barbra describes herself at that time. She used to ice-skate every afternoon. That winter she was practicing a particular spin and would always fall on the same spot, on the inside of her left leg, just above her knee. Around Easter of 1965 she started to get cramps and a charley horse on the inside of her leg. Her general practitioner said it was a sprain and put a bandage on it, which didn't help. She went to a bone specialist who found a lump that he thought was a calcium deposit. He put her leg in a cast. After studying X rays Barbra had had taken six weeks earlier, the orthopedist ordered a biopsy. After the biopsy was done at a local hospital, the doctor came into Barbra's room and bluntly told her she had a malignancy. Her leg would have to be amputated.

Barbra was furious. "The coldness of that," she commented. "He had no feeling whatsoever. I didn't even know what was wrong with my leg. I thought I had a calcium deposit and the first time I had ever thought of cancer was when this guy comes in one night and tells me I'm going to have my leg cut off."

Barbra was then admitted to Memorial Hospital for Cancer and Allied Diseases, the noted cancer center in New York City, where Dr. Ralph Marcove, currently associate attending surgeon of the Bone Service, was assigned to her case. He feared that Barbra's cancer had already spread beyond her leg and ordered five days of preventive radiation to keep cell growth localized. In May of 1965 Barbra's left leg was amputated at the hip joint. Her reaction was unique. "I was not depressed about it in the least. When I knew I had it and I knew it had to come off, all I wanted to do was to get well. All I wanted to do was to get my prosthesis and be normal."

In August she went back to Marcove for a routine checkup. After reading her X rays, Marcove came in and sat down next to her on the bed, and sadly told her that she would have to have more surgery, this time on her lungs. At first Barbra couldn't believe it, but after a few seconds of shock she accepted it totally, just as she had accepted her amputation. "It would be done. I would get over it," she said simply.

The two operations, which Barbra described as "a bitch," were performed by Edward J. Beattie, Jr., M.D., now general director and chief executive officer and chief medical officer of Memorial Hospital. "He's the most amazing man, the warmest man, just a real love.

He always prized me, which makes me feel very special. He explained everything to me in detail—what he would be doing, what it would be like after surgery, how long it would be before I recuperated. I trusted him completely." Of Barbra, Dr. Beattie said, "She's very special. She's a tough lady." Barbra was in the hospital for a total of five weeks, after which she was fitted for her artificial leg, which was ready in December 1965.

"Ordinarily," Barbra explained to me, "you go for rehabilitation with an artificial limb. First you walk with a crutch, then with a cane. I put the leg on in the office and walked down the hall. I never used a crutch or a cane. Then the next day I left the house, I walked to the bus stop. I was so excited. I was going to board the bus. Without anything. No crutch, no cane. I got on the bus and I went to school, and I felt like I wasn't supposed to be different anymore. I was just going to be a normal kid again."

"But people wouldn't accept me when I came back. I wanted to fit in, I wanted to be popular. I wanted to have a boyfriend; I wanted to be just like everybody else and here I had my leg cut off and had lung cancer and that's not normal."

"I came back kind of different, because I came back really strong. I had really changed a lot in the six months that I had been out of school. I had my leg amputated. I was in the hospital for a period of time. I had seen people die. I had succeeded in staying alive. I had really developed. My mind had really gone through circles. The kids at school—what did they do while I was away for six months? So I came back very determined, with a lot more knowledge about what life was."

"I never saw myself being different. But other people did. And they stayed away from me. I never had a boyfriend; I never was asked out; I never went to the prom; I never had a best friend. And I tried. But it never worked because they were young and they were afraid. I had cancer. At that time, in the mid-sixties, cancer was even more of a threat than it is now. So as much as I tried, nothing worked. It was terrible. It was torture."

After high school Barbra was accepted at Pratt Institute, a highly respected art school in Brooklyn, New York.

"One thing was clear. I wasn't going to stay in Wayne, New Jersey. I had to get out of there. I never wanted to come back. And I never did, not even for a summer or anything. I got my own apart-

ment after sophomore year. I had to get up; I had to make my own breakfast; I had to walk to class—nobody was going to drive me. I had to go down into the subways, climb stairs, and that was the first time I had ever done stuff like that.

"In high school I used to come home from school and that was it, nothing more. And here, I was up day and night, doing papers. And I *was* different. I had boyfriends immediately then. I met Kevin [now her husband] the first year in Pratt. I had roommates. I had good friends. People really reacted to me. The more different I was, the more popular I was. I was special and you're not supposed to be special in high school. You're supposed to be like a cheerleader."

"I started out in Pratt in fashion, but I didn't like it. In sophomore year I decided to take a photo course as an elective. And I loved it."

In the fall of 1969, at the beginning of her sophomore year, Dr. Beattie told her that a spot on her lungs that he had been watching had not gone away as he had hoped it would. He wanted to remove it. "I couldn't believe it. I didn't want to leave school. Period. I was scared. I didn't feel that I should have to have another tumor in my body. I had to go back to the hospital and I had just gotten back to school—it was second year—I had all my friends and my boyfriends and I had to go back to Memorial Hospital, you know? What a drag! You know—*damn* it, that's not what I wanted to do right then. I wanted to start classes.

"But naturally I had to do it. So I figured I'd do it real quick. I made a bet with Kevin that I would be back in school in seventeen days, and when I told Beattie that he didn't even think about what I was saying. You're supposed to be in the hospital for three weeks after an operation like that.

"So I had the operation, and after I was operated on I said, 'I'm going to go home in five days,' and Beattie didn't even listen to me. In five days, to the day, I got up and got dressed and I sat there until four o'clock when he came to visit me and I was all dressed up, and I said, 'I told you—five days. I'm going to leave tonight with my parents.' So he looked at me and he shook his head. And he let me go. And that was the kind of determination. I just fought to get out of there. So I got home and I stayed in bed for a few more days, and then I went back to school. I went back very weak, but I did go back in seventeen days."

After that surgery, along with 265 osteogenic sarcoma patients, Barbra received a now-abandoned experimental form of immunotherapy. She is one of two of those patients still alive today. She is among the 8 percent of all osteogenic sarcoma patients with distant metastases to survive more than ten years after their diagnosis, her annual X rays clear of cancer.

Mary Lee Rork had cancer that was treated with surgery and radiotherapy that did not control it. However ten years after her original diagnosis, seven years after a recurrence, she is today so full of vitality that she counsels other cancer patients to help them recover.

For two years Mary Lee's ophthalmologist reassured her that the tiny nodule in the corner of her right eyelid was merely a clogged tear duct—nothing to worry about. In the summer of 1972, however, suddenly the lump began to grow. A second ophthalmologist sent Mary Lee, then twenty-eight, to Hollywood's Kaiser Permanente Hospital for a biopsy. The doctors there diagnosed the lump as lacrimal carcinoma—a rare cancer of the tear duct. Mary Lee's right eye was removed.

In the spring of 1973 she had 6,000 rads of cobalt to her skull to destroy any cancer cells that might have been left after surgery. "That radiation was like a thousand days in the sun in three minutes. It's that debilitating. I had treatments for three months, Monday through Friday. I was down considerably after that—very logy, very low-key, very tired. I was also very nauseated—had no appetite. Food lost its taste totally. The only thing that was any good was milk shakes. They would cut the burning in my chest and my throat, which were now on fire. Even though the radiation was to the skull, it travels down through the lymphatic system. It took a good five or six months before any feeling of energy returned."

For more than two years the radiation seemed to have controlled Mary Lee's cancer. In September 1975, during a traumatic trip to Minnesota, she was hit again. "My blood pressure went sky high, my heart began pounding out of my chest, and I was having shooting pains across the bone area where the eye was removed. I flew back, went to L.A., had chest X rays, scans of the skull—all of it. In the chest X ray they found cancer throughout all the lobes of my lungs. I refused to believe them and insisted on a biopsy, because what you see on a film can really be misleading. They tried a needle

biopsy and the doctor couldn't get any cancerous tissue. I said, 'Listen, if you can take only good tissue, please, I want you to put it back!'

"He couldn't do that, of course, so I had a surgical biopsy. The diagnosis was definite. It was the same cellular structure that they had found in my eye: metastatic lacrimal carcinoma.

"Then the chemotherapist came in and said, 'We want to give you chemotherapy; a drug called 5-FU.' And I said, 'No, I'm not going to do that.' I knew what radiotherapy had done to me before. And it hadn't controlled the cancer. Well, he just looked at me and he said, 'Well, then you only have four to eight months to live.' He said with chemotherapy, maybe eighteen months to two years.

"So I began praying. And I cried out a lot, 'God, I don't really want to die. I want to raise my children. I have a lot to do. There's just so much. I don't want to leave yet.' I'm a real firm believer in prayer."

It seemed an answer to Mary Lee's prayer when a friend of her sister-in-law told her about a book by a former breast cancer patient who had cured herself using an unorthodox nutritional treatment including wheatgrass. "It was given to me in the hospital. I hid it. There I was, with one tube in my side and an IV in my hand, and I was afraid if the doctors saw the book they wouldn't want to keep me alive anymore."

Mary Lee took the book home with her and began the therapy, but it was not effective. She had had no more diagnostic tests after the lung biopsy, but her health had greatly deteriorated. "By August of 1976 all my bodily processes had slowed down. Even the hair on my legs had all but stopped growing and almost all the hair on my head was gone. I was now jaundiced, all yellow. I was in pain all the time. I felt defeated. I was a two-time cancer loser. I thought I had had an answer to my prayers and I was still dying. I couldn't imagine what kind of person I'd been in my life to deserve this."

But Mary Lee was not ready to give up. "I got on my knees again and I prayed harder and louder. One day I had ten dollars in my pocket and I went into the health food store to get some food for my kids. I stood there and I looked around and I thought, 'You liars. You're all a bunch of charlatans in here just like anywhere else. What am I supposed to do?'

"I was standing there ready to pay for my food, and I looked

down at the glass-topped counter and underneath it was a big blue book. And, God, I can cry just thinking about it." Mary Lee paused, her voice choked with tears. What she saw was a book by a German physician named Max Gerson who had also devised a nutritional regimen to treat cancer. The name of the book was *A Cancer Therapy: Results of 50 Cases*. "I thought, 'That's interesting. By a doctor! Well, that fits into my belief system. Fifty cases that are documented. Well, heck, why not fifty-one?' And I went back and I put all my food back and I bought the book. I felt as though I had another choice."

But the Gerson book was hard to follow and Mary Lee put it aside. Because her cancer was slow growing except for those periods when it grew explosively, Mary Lee managed to keep herself alive by continuing to follow the wheatgrass therapy. It wasn't until October, when she heard a lecture by Charlotte Gerson Straus, the daughter of the late Max Gerson, that she decided to begin the therapy. "That was one of the most difficult roads of my entire life," says Mary Lee. The Gerson therapy (see "Max Gerson, M.D.", p. 62), dismissed by all but a small handful of physicians as quackery, is the most demanding of the medically unproven therapies for cancer. Patients must have fresh foods, thirteen glasses of freshly made vegetable juice a day, one an hour; they must purge their bodies with coffee enemas and go through debilitating healing crises as tumors break down and toxic wastes recirculate through the blood.

Mary Lee looked and felt so bad when she began that even Charlotte Gerson Straus, the most supremely confident promoter of her father's therapy, didn't believe that she would survive. For months it seemed as though Charlotte's and the chemotherapist's predictions were correct.

"In the fourth month of my therapy I started to cough," Mary Lee said. "I was certain it was a sign that the lung tumors were really taking hold and that my condition was degenerating. Well, it did something to my mind, I can't begin to tell you. I was so frightened. That month I went downhill so badly. I had to be carried and fed, bathed, and clothed. I didn't have enough energy to care for myself at all. Nothing. I was a total child."

"The cough racked every muscle in my body and I was in constant pain. I coughed for twenty-four hours a day, on and on and on. In the third week of this, my dear friend Nancy put me in a vapor tent on the couch. My mom came to visit about that time and I was

in a prenatal position on the couch. I had an itch on my nose and I didn't have enough energy to take my hand and move it up and scratch it. I had to ask my mother to scratch my nose.

"She went into the kitchen and got the Gerson soup and a straw and sucked it up into the straw and put it down my throat and fed me that way. It's the only way I got nourishment that day.

"Now, one day after that—one day!—I woke up, and this intelligent body, with all its knowing wisdom, said 'Roll over,' and I did that, and I didn't retch and I didn't cough, but up from my lungs came these little white masses that filled a big pot. About three times I opened my mouth and there they came. It was terrifying. I thought I was going to drown, there was so much.

"During that three weeks I was coughing there was a fluid buildup in the lower left lobe. It had collapsed during surgery, and there was damaged tissue in there. Now when the body heals, it heals everything, and when there's healing, there's healing inflammation fluid. I didn't put that together. All I thought was that I was drowning. As soon as those little embryo things—that's what they looked like—came up, I . . . stopped . . . coughing.

"My mother came two days later, brought my darling little niece, knocked on the door. *I* got up off the couch. *I* opened the door. I picked up my niece—my mother ended up in tears.

"After that four and a half months of agony I had two days without pain. I awakened that first day without pain and I opened my eyes and said, 'What's this that I'm feeling?' I really had to get hold because it was so strange. And then I said, 'My God! I don't hurt anywhere.'"

Mary Lee stayed on the intensive Gerson therapy for three years. Today she eats raw foods, drinks lots of vegetable juices, and goes back on the total therapy if she feels she needs it. "I do a lot. I'm in a Jazercise class. I've got dynamite energy. My son's a Little Leaguer and I'm a crazy Little League mother. I teach piano. And I lecture about the therapy and work with Gerson patients."

Hy Radin is a man for whom surgery, radiation, and hormone therapy failed. Yet Radin, too, is a cancer survivor. Meeting this puckish, beaming, sixty-eight-year-old today, it's hard to believe that at the end of 1968 he was in New York's Lenox Hill Hospital, in constant pain, dying of metastasized cancer.

In his Manhattan living room overlooking the Hudson River,

surrounded by his own brightly colored paintings, large abstracts reminiscent of Miró and Klee, Hy talks calmly about his experience and his decision to turn his back on orthodox therapies—but every once in a while, as he speaks of that time, his voice breaks. He reads his hospital diagnosis: "Metastatic carcinoma of the spine, lumbar four and lumbar five, of undetermined origin. Metastatic carcinoma . . ." Here Hy stops for a moment and waits to regain control. "Metastatic carcinoma of the liver," he begins again, "colostatic jaundice, benign prostatic hypertrophy, diabetes mellitus."

Hy had been seeing only top doctors for years. "I always had the best doctor for everything. I could afford it, and I had the best doctors. They're all eight feet tall, you know." One specialist had treated his diabetes; he saw another for his arthritis, and still another specialist for pains in his back.

But in spite of all his doctors and the medical tests he took to find the cause of his seemingly unrelated ailments, until he collapsed on the street one day at the end of 1968, Hy had no idea that he had cancer. Once he was in the hospital, his doctors performed surgery on his spine. They also gave him 200 roentgens of cobalt therapy and, to relieve the swelling of his prostate, the female hormone diethylstilbestrol. It was not effective. "The only thing I think that hormone did for me," Hy recalled wryly, "is I grew breasts all of a sudden. And this was embarrassing for a very skinny guy."

Hy's doctor never gave him a prognosis. "They wouldn't give you a straight answer. But the head nurse told my wife I couldn't last three weeks, that in their experience—just forget it, not a chance in the world that I could have pulled out."

Hy did not feel that the treatments he was receiving were increasing his chances of survival. "Absolutely not. I thought that I was dying much faster than if I didn't do anything." After six weeks in the hospital Hy finally decided he was through with it. He was tormented by unrelieved pain; he was disturbed by the hospital's poor service and his doctors' lack of responsiveness. Though urged to stay he told his physician he was going home, he had had enough.

A close friend of Hy's, a student of nutrition and nutritional therapies, had attempted to convince him to try one of the dietary programs used by a small number of renegade physicians and therapists who viewed cancer as a metabolic disease and who had achieved remarkable success with some very far advanced cases.

Most of Hy's friends discouraged him from undertaking such a program, telling him that such treatments were useless quackery, but as his friend urged when Hy returned home from the hospital, "Would you at least *try* it? What have you got to lose?"

Hy could not find a doctor who knew enough about nutrition to guide him. He devised his own treatment, getting his information by reading everything on nutrition he could find. "I would get something from almost every book, some little thing that related to what my problem was," he said.

He began what is known as the William Howard Hay detoxification program, starting with an epsom salt purge, continuing with four or five enemas a day for three days, then cutting back to two and three a day, and finally easing off. He completely changed his diet, following his own regimen. For the first three weeks he drank fresh fruit and vegetable juices and ate nothing but raw vegetables and raw fruits—what he calls his salad diet. He then added a little animal protein, but even today raw foods and juices make up 80 percent of his food intake, with fish and eggs accounting for the balance. When he began, he also took extremely high doses of vitamins and minerals, including 300,000 international units of vitamin A daily.

He was still too weak to walk much, but was determined to find a nutritional doctor who could advise him. "I tried calling different people that I knew, and I finally found a health food store that knew of a doctor. You know, it was very difficult for me to get around so I hired a cabdriver and he took me to different places. I finally found an M.D., Dr. Maximillian LeWitter, who was in nutrition. He was an endocrinologist. I went to him and showed him my program. And the only change he made on my whole program, he felt I was taking too much vitamin A. At first I fought with him, but he showed me studies proving that such high daily doses of vitamin A caused brain damage in animals. So I agreed to drop down to a hundred fifty thousand IUs of A."

After about six weeks on his new program Hy began to feel he was getting better. "My eyes started to clear up. One of the things that I had was a lot of mucus coming out of my eyes. I was always rubbing them. Then, all of a sudden—it may have been the vitamin A; I don't know, but my eyes started to clear and I started to walk a little on my crutches. And the pain was subsiding."

When he began his program, he was taking all kinds of drugs, including painkillers and Orinase for his diabetes. "I was taking drugs like there was no tomorrow," he said. LeWitter advised him to stop taking medication. "You cannot take so many toxins into your system and expect the good food, good nutrition, cleansing program, and the vitamins to work—one against the other. You've got to stop the drugs you are taking for your pain. You've got to stop the Orinase," LeWitter ordered.

"Well, I had to throw away all my drugs that day. And I did. The diet helped clear up the diabetes, also. It took a year for all the cancer to leave my body, and at the end of that year I was no longer spilling sugar in my urine, either."

Today, more than ten years away from what appeared to be his deathbed, Hy is a youthful and chipper man, semiretired, working only half days in the advertising agency he owns, playing golf, enjoying his life. Dr. LeWitter died several years ago, but Hy still follows his diet faithfully. He counsels cancer patients when they come to him for advice and has become a tireless crusader for nutritional therapies.

Although there are no survival statistics available for Hy's condition, metastatic carcinoma of unknown origin that had invaded the liver and one other site, such widespread cancers generally have poor prognoses today and would have been even more difficult to treat successfully in 1968.

In the case of metastasized breast cancer, which kills more than thirty-eight thousand women each year, the name of the game is not cure, but longer survival time. Women whose breast cancer has spread to lung, bones, or brain must battle continually merely to hold their own. For Pat McNamara the struggle against the disease began nearly thirty years ago. She found the first lump in her breast in 1954, when she was twenty-one. She was living in Oklahoma at that time, and when she and her women friends would talk during the day, one topic of conversation was Pat's lump and what she should do about it. Some urged her to see a doctor, but Pat chose to take the advice of one friend who said, "Oh, you don't have to worry about such things. They're only serious if you're over thirty." Pat said recently, "It never entered my mind that it could be anything but a simple lump," so she did nothing about it.

Pat's husband, Tom, was a Marine, and was transferred to a base just outside of Palm Springs, California. There Pat found she was pregnant, but because her hormone system was out of balance and she seemed about to miscarry, doctors gave her the hormones progesterone and stilbestrol to help her keep the baby. When she was seven months pregnant, Pat told the doctors of her breast lump. A biopsy confirmed the cancer, and there was concern that the hormones used to keep her from miscarrying had helped fuel the growth of her tumor. During radical surgery that removed her breast, the pectoral muscles, and lymph nodes, three lymph nodes were found to contain malignant cells. The day after surgery Pat went into premature labor. The baby, a little girl who weighed two pounds, two ounces, at birth, lived only for a day.

After surgery Pat had six weeks of cobalt treatments. At one point during her treatment Pat was told that her doctors didn't expect her to live out the year.

Pat found her second breast lump in the spring of 1974. "I knew what it was. I don't routinely get lumps in my breast, and this one felt the same as the lump I had more than twenty years before." She went for a mammogram, which showed nothing, so Pat once again chose to take no further action. This time part of the reason was that she was taking care of her mother, who was dying of pancreatic cancer.

"When Mom was diagnosed, we were told she would live a month or two, so it seemed natural for her sister and me to take turns staying with her. Aunt Dorothy would stay for ten days and then I would stay for ten days. I had three adopted teen-agers to take care of, and my husband and I own a store, and we taught a junior high school religion class, and I just arranged my life so I could continue to do all of this and take care of my mother, too."

"Mother was always very active and tough: she had won a county golf championship the year before she got sick and instead of living for two months she lived for two years. It never occurred to me to ease up or to change what I was doing. I'm a workaholic, a perfectionist, and just thought I could do it all."

Pat's mother died at the end of 1974, and when Pat finally had a second mastectomy—modified surgery—the cancer had spread to two of her lymph nodes.

After surgery she again had radiotherapy—five weeks of it this

time. "I made up my mind that I wasn't going to get sick. I would have a Weight Watchers milk shake before my radiotherapy and tell myself that it would keep me from getting sick, and I never did. I got tired, but that was all."

Pat seemed to be fine, but in October 1975, during a tennis-conditioning exercise, she felt a strange sensation in her back. She turned to her friend and said, "You know, if I didn't know better I'd think my back just crunched." Her friend's face turned ashen. Later Pat learned that her friend knew another breast cancer patient who had described the pain caused by metastatic breast cancer in the same way. Pat's friend feared that Pat's cancer had spread into her bones.

Pat didn't let her back stop her, but a couple of weeks later, while working in the store, she banged a heavy box against her chest. Her ribs stayed sore through Christmas. She remembered joking, "If I didn't know any better, I'd think I'd broken my ribs." For weeks she complained about the pain to her various doctors—her surgeon, her obstetrician cousin, and finally her radiation oncologist in Modesto, California. They would examine her and palpate her ribs, but they found nothing. They reassured her that she was fine, that she had pulled a muscle from doing too much and should take it easier. One day when the radiation oncologist contradicted himself and told her that she simply wasn't doing enough arm exercises, Pat felt like crying with frustration. She didn't break down in his office; but in the car. "I cried for the whole hour's drive home from Modesto. I hurt and I was scared and none of them wanted to hear me. Maybe I didn't complain loud enough."

In February 1976 Pat had the flu and went to see her local doctor. A technician took X rays and every time she turned Pat to a different position, Pat moaned. The technician asked, "Where does it hurt?" and saw to it that the painful spot was X-rayed.

The X rays showed Pat to have a crushed vertebra, crushed spine, and six broken ribs. Her radiation oncologist was distraught, and sent her to an oncologist in Modesto who put her on chemotherapy right away.

Pat asked him, "How long am I going to be on chemotherapy?"

"Until I decide to take you off," the doctor told her.

"I didn't like that," Pat said, recalling the incident. "I didn't like the idea of chemotherapy in general. My mother had been on it and

I saw how hard it had been on her, and I also saw that people who were on it for a long time didn't seem to do very well." Pat, her physician father, and her cousin consulted with her mother's oncologist and they suggested she be seen by Dr. William Rogoway of the Palo Alto Medical Center. Dr. Rogoway told her, "You've got about six weeks before you hurt so bad you can't stand it." But he didn't want to rush into chemotherapy. He felt that given her earlier hormone imbalance, she might be more responsive to hormones and that chemotherapy would always be possible as a later alternative.

In the early spring of 1976 he took her off the chemotherapy regimen she had begun, and put her on the normal dose of the hormone Halotestin—about 20 mg a day. However, Pat never tolerated more than 10 mg and has been on only 5 mg a day for several years.

Pat sought other therapies as well. After her second surgery she said, "I kept tearing out these little articles about Carl and Stephanie Simonton." The Simontons—he a radiation oncologist and she a psychotherapist—were treating their cancer patients with psychotherapy and by teaching them to relax and meditate and to see their cancer cells as weak and disorganized and their therapy and immune systems as powerful (see "Mind/Body," p. 276).

"It was really strange for me to do that. I'm a doctor's daughter and tend to be skeptical about these things. But I think that after my second surgery, at some subconscious level I knew I was in trouble. And I can't explain that. I had a feeling of dis-ease—that my body hadn't settled down."

So Pat took her hormone, went for biannual bone scans and X rays, and at the same time she was seeking physical answers, she used cassette tapes from the Simontons that taught her how to relax and meditate. She meditated three times a day, just as the tapes directed her to. She also ordered the other Simonton tapes and books.

In October 1976 she contacted the Simontons' office and in January 1977 she and Tom went to the Simontons' Cancer Counseling and Research Center in Fort Worth, Texas. They spent five days at Briarwood, the Presbyterian retreat where the Simontons held their first years of training sessions for small groups of cancer patients and their mates or close friends. "I came back convinced that if I did the things I learned there and took my medicine, I might be able to

turn my disease around." She and Tom have since gone back for many follow-up sessions, including attending the only month-long session the Simontons have ever done.

The second time she was there, the Simontons were training for a marathon. She had never done any running, but by the end of a month she was up to three and a half miles and completed the Honolulu marathon in 1978.

Pat's back felt better fairly quickly and X rays showed healing taking place. In her visualizations she saw her spine supported by little golf pencils, like splints. Her ribs, however, didn't heal for a long time. She discussed it with Carl Simonton, who responded, "Well, maybe if you reduce the running and give them a chance to heal, they'll get better." He also asked about the imagery she was using to heal her ribs. Pat saw birds weaving them together like birds' nests. Simonton felt this was too complicated and suggested that she simply see them healing: first laying down callus, then cartilage, then calcium. Pat began to visualize that, and about a year after she ran the marathon, her ribs began to show signs of improvement. She has not needed a bone scan in more than two years. "I may be overdoing it." Pat laughed. One doctor who recently took X rays of her shoulder for bursitis met her later at a party and told her, "I have never seen so much calcium in anybody's shoulder." "I didn't tell him why," Pat said.

Today Pat still takes low doses of her hormone, continues her visualizations, and, she said, has reduced greatly her compulsive perfectionism. "I had two children married in 1982. I remember telling a friend at the wedding, 'I have forgotten some things and it's not perfect,' and we looked at each other and laughed.

"I've learned to take care of myself. One thing the Simontons taught me that impressed me so much was that the real responsibility to get well lay with me, and it was very clear that they weren't going to do it for me."

Pat's doctors are enormously pleased with her condition. "But most of them really don't want to know the details of what I'm doing. They say, 'Whatever you're doing is fine.'

"I've changed a lot as far as doctors are concerned. They used to be heroes to me, and in some ways they still are. I accept all their knowledge, but now I know that I'm the only one who can decide what's right for my body."

These survivors overcame extraordinary odds to defeat their disease. In some cases physicians had said, "There's nothing we can do for your cancer; we can give you painkillers in the end." Yet despite the worst prognoses they did not die. They recovered, and today they are thriving, full of energy and enthusiasm for life. Their healings are proof of the awesome regenerative ability of the human body. Their very existence is a message to all cancer patients: If these survivors were able to hold back death, then it's possible for all cancer patients; if these people could return to vibrant health, then every cancer patient can hope.

In itself this is remarkable, for hope and cancer have long seemed mutually exclusive terms. In the emotional response it evokes, cancer is the contemporary equivalent of the plague. In 1976, when I began researching the article for *Forum* magazine that inspired my interest in survivors, I didn't want the word cancer in my house, as though seeing it, thinking of it, speaking of it, could somehow contaminate me. My reaction is fairly common; for many people the very word cancer evokes an almost superstitious dread: hence "the Big C." More than twice as many people die of heart disease each year, but parents don't spell out *heart attack* as I heard one mother spell out *cancer* when her children were in the room. This conspiracy of euphemisms continues even after death: obituaries of cancer patients often report the cause of death as "a lengthy illness."

These feelings may seem extreme, but they are not totally irrational. Nearly every aspect of cancer is alarming. It strikes seemingly at random: a cancer-free family history, a lifetime of good health, and a sensible life-style appear to be no defense against it. Its incidence grows steadily. According to the American Cancer Society, in 1982 some 835,000 Americans were diagnosed as having potentially lethal cancers. When I started researching this subject in 1976, the incidence was 675,000. Cancer hits all races, both sexes, every age group. It appears more frequently in old people, but it kills more children than any other disease. Few lives are untouched by cancer. If you are reading this book in a room with two other people, according to figures released by the National Cancer Institute in 1981, one of you will get cancer at some point in your life. In 1976 that incidence figure was one out of four.

Cancer's growth is usually silent and symptomless. Although

early diagnosis is considered the most potent defense against an existing cancer, many malignancies elude standard medical tests; some cancers escape the most sophisticated. We are all familiar with cancer patients who have faithfully visited their physicians for annual checkups and received clean bills of health. Then, several months after an unremarkable diagnosis, they've found a lump or developed a symptom that proved to be the sign of a cancer that had already spread throughout their bodies, undetected despite frequent medical examinations.

As I researched this book, I frequently heard stories from patients who presented troubling symptoms to two, three, or four doctors and were told not to worry, that nothing was wrong. Eventually these patients were found to have cancer, often advanced by the time it was discovered. There are no available figures to tell us how widespread this failure to detect really is. The patients' fear of a cancer diagnosis may keep them from searching too hard, but the physicians' own fear of cancer may play a role as well.

It is not only the disease that terrifies: the cancer treatments of surgery, radiotherapy, and chemotherapy are frequently as debilitating and frightening as the disease itself. Cancer patients themselves are often the objects of fear. Survivors and patients repeatedly said that after revealing a cancer diagnosis, friends dropped away, jobs were lost, lovers withdrew. One brain cancer survivor told me, "I learned just how deep the fear of cancer was when I went to a party after my brain surgery. Everyone else was drinking out of glasses. I was given a paper cup. 'You understand,' my hostess said. I understood all right." Although this attitude has changed in the past few years, many cancer patients still feel shame, guilt, and self-loathing for their illness, emotions that grow out of their own attitudes toward the disease as well as the response of others.

The expectation underlying the fear of cancer is clear: a diagnosis of cancer is still widely perceived as a death sentence. In the grimdest scenario cancer patients suffer an inexorable progression beginning with agonizing but futile treatments, through wasting away, to severe pain and death.

Yet, according to the National Cancer Institute's 1982 estimates, 46 percent of all newly diagnosed patients will survive for five years or more. There are now *millions* of former cancer patients who have recovered. The American Cancer Society estimates there are

two million cancer patients alive today in the United States who were diagnosed five or more years ago. In its publication 1982 *Cancer Facts and Figures* the ACS says, "Most . . . can be considered cured . . ."

Unquestionably most who can be called survivors had early cancers or more curable types of cancer. Yet survivors like Barbra Walz, Mary Lee Rork, Hy Radin, and Pat McNamara prove that even patients with metastasized cancer can reverse and overcome it, or battle it to a standstill. There are no data to tell how many survivors recover from disseminated disease. But statistically a small percentage of patients with lethal or metastasized cancers survive, which means that there are thousands of patients now alive who have recovered from late or even "terminal" cancers.

These miracle survivors fascinated me. Why did they get better? How did they conquer—often to the amazement of their doctors—the most deadly or the most advanced forms of cancer? Perhaps there was one method that worked best on all late cancers. Was survival just the luck of hitting the right treatment at the right time? The quality of doctoring? A fortuitous accident of inherited strength?

The medical literature abounds in studies showing, for example, which chemotherapeutic drugs successfully reduce which tumors. But these studies leave many questions unanswered. Oncologists frequently report that they can treat two patients with identical tumors at the same stage with the same treatments, only to watch one patient die while the other recovers. Why will what seems to be the same cancer remain under control for years in one patient and reappear in a short time in another? What other factors are involved?

Recent medical research has begun to reveal the intricate and important ways in which mind affects body. Do former cancer patients share any emotional and personality characteristics? What information and advice can these survivors give that would help other cancer patients to get better? What implications does their survival have for other illnesses?

Intrigued by these questions, I searched the literature for studies that investigated them. I found many research papers that sought to define the cancer-prone personality but almost none that examined survivorship qualities. In my search for answers, between

1976 and 1982 I met and interviewed more than a hundred cancer patients and survivors—many of them cancer free for more than five years. I looked for those who had recovered from advanced disease, feeling that those who had to overcome the bleakest prognoses would have the most valuable and practical information for all cancer patients.

What survivors told me is that they owed their recovery to a combination of factors. One element, of course, was the treatments they used. The traditional cancer therapies of surgery—to remove detectable tumor masses—and radiation and chemotherapy—to kill stray cancer cells throughout the body—are responsible for the majority of cancer cures. In the past two decades medical science has made advances in these therapies, leading to increased survival times for some types of cancer and to cures for others. "Surgery, Radiation, and Chemotherapy," p. 23, explains these methods in greater detail and summarizes the latest reports on which types are most effective for which kinds of cancer.

Despite improvements and new discoveries these methods do have severe drawbacks—some of them are in fact carcinogenic—and are still a long way from conquering cancer. When I began researching this subject, I had no idea that there were any other treatments for cancer. I was astonished to meet cancer patients who were "living with," "managing," "controlling," and even curing their cancers, using a variety of methods that are not sanctioned by the medical profession. Each year thousands of American cancer patients, more than 90 percent of them called "terminal" and told that medical science can do no more for them, seek out these alternative therapies because they have no other choice.

Initially I was skeptical about tales of alternative healings, but examination of medical records convinced me that these patients were not deluding themselves. They did indeed have cancer to begin with; their chances of recovery were very small, yet they became cancer free after using these alternative approaches. These methods were far from cure-alls, but they gave life to a percentage of "terminal" cases.

As I researched, I found a coherent underlying philosophy that made a great deal of sense. The researchers and practitioners who espouse these alternatives interpret cancer in a completely different way from traditional medicine, and it seemed that exploring this fresh viewpoint might produce useful information.

The alternative approaches are still extremely controversial and the traditional cancer establishment has long ignored them or vigorously attacked them. However, although these methods have not been tested according to the rigorous standards of medical science—they are referred to as “unproven”—they have growing support of two kinds. First, unquestionably, there are survivors—like Hy Radin and Mary Lee Rork—who recovered after using these “quack” treatments. There also exists a flourishing underground of physicians, researchers, patients, organizations, and advocates who believe in these approaches and experience good results with them.

More significant in the eyes of traditional doctors, there is new scientific proof from the conservative medical world, including the National Cancer Institute, that elements of these methods have great value in cancer prevention and a potential role in therapy. A growing body of hard research—including studies of cancer incidence in various population groups (called epidemiological data), laboratory studies, clinical trials (testing in humans), and the latest genetic discoveries—increasingly supports many of the concepts underlying the alternatives.

Some of this research has been done throughout the twentieth century, some within the past decade. But medical attitudes and beliefs always change slowly, and the medical establishment has not yet widely accepted the validity of other approaches. It is still difficult for patients to find hard information about the alternatives. This book attempts to provide it. In Sections Three through Eight I investigate these treatments in detail—their histories, practitioners, underlying rationales, and medical documentation—emphasizing the experience of the patients who have used them. Section Nine describes and analyzes the hostility that exists between orthodox medicine and the alternative cancer world.

Because of traditional medicine’s attitude toward the alternatives, patients who seek to use them must be strongly motivated to live. How much did this intense desire contribute to their ultimate recovery? As I researched, I found this drive not only in survivors who used alternative therapies, but in every cancer survivor I met, no matter what method was used.

Cancer survivors shared certain emotional and psychological qualities. These characteristics, which I believe to be as important as the treatments, were the other—still unexamined—element necessary for survival. Most exciting, this will to live was expressed in

concrete attitudes and behaviors that can be learned. Cancer survivors provide models to help newly diagnosed patients overcome feelings of helplessness and loss of control, to show them they can play an active, important role in recovery and that they have much more power to affect their health than they may believe. These attitudes emerge in patients' stories throughout the book and are summarized in the final chapter.

For most cancer patients the alternatives come late in the disease. Nearly every cancer patient's first experience comes in a traditional medical setting: in a physician's office, after a traditional diagnosis has been made, as a course of treatment is prescribed. To begin at the beginning, then, it's important to understand the basics of surgery, radiation, and chemotherapy.

2.

SURGERY, RADIATION, AND CHEMOTHERAPY

In June 1970, Lynn Ringer remembered, she was home in Boulder, Colorado, painting her porch. Tall, slender, her skin glowing with health, Lynn told me that she had left her job as a medical technician at the end of 1969. Lynn was twenty-nine and she and her husband had decided it was time to have a child. "I'm a task-oriented person, but I was enjoying my retirement," she said. As she leaned forward to touch up a distant part of the porch, she noticed that her jeans were tight around her stomach. "I guess it's time to start some exercises," she thought briefly, and then forgot it.

"I wasn't feeling poorly," Lynn went on. "Occasionally I'd have a little bout with diarrhea, which I would attribute to something I ate, or maybe a flu—which is so easy. I really didn't think about any of those things, because they were very sporadic and attributable to most anything." But during those early summer months she also noticed that she felt more tired than usual. Fairly new to Boulder, Lynn and her husband knew no doctor there, and she finally asked a neighbor to recommend a physician.

This doctor put Lynn through a battery of gastrointestinal tests, which were all negative, then sent her to an allergist who gave her a clean bill of health, and then to a urologist, who also told her nothing was wrong and suggested she check back in six months.

"I was determined that it was nothing," Lynn continued, but her

weariness grew, and by the end of the summer she could no longer ignore the signals from her body. "Over the Labor Day weekend we went visiting down in Oklahoma to some of my husband's family, and it was hot and humid, and it seemed to precipitate my feeling just drippy. By the time we returned home, I had really a good-sized belly on me. It was like maybe I was five months pregnant or something. My belly button punched out the other way and Al, my husband, just said, 'Wait a minute, something is *wrong*.' "

The Ringers went to see a friend of Al's, a physician in Denver, who immediately put Lynn in Presbyterian Medical Center for exploratory surgery. "They said it could be possibly an ovarian cyst that was causing the problem, but up until that point nobody had ever mentioned the possibility of cancer." Lynn, who had never been hospitalized before, remembers feeling terrific just before her operation. "We were kind of goofing around and I can remember thinking, 'Oh, this is a snap.' But when I came out, I thought, 'Wait a minute! What happened?'"

In the recovery room her surgeon at first said, "Well, we'll talk about it when you're feeling a little better," but Lynn would not let him go until he told her exactly what her extensive surgery had been.

"You've had a hysterectomy, and you had some malignant ovaries," he told her quietly.

"That just kind of bombed me out," Lynn told me. "I think for both Al and me the hardest thing was that we couldn't have children, because that was programmed into our minds at that point in our lives. The cancer was a biggie, but it was kind of secondary to getting over the first thing."

Although her surgeon didn't explain it all to her then, Lynn had stage four ovarian cancer. This is the most advanced stage of cancer, where the disease has spread or metastasized far beyond its original site. Both of Lynn's ovaries were cancerous. She also had little seed tumors throughout her omentum (the apronlike fold in the lining of the abdominal cavity between the stomach and the intestines), and metastases to her liver.

After surgery the hospital called in Dr. Paul Hamilton, an oncologist, to take over Lynn's case. "He was a kind and gentle man and I respected him immensely, but we really never talked a lot about me and what I thought about things. I don't know that I ever really asked him what my prognosis was."

The person who did talk about prognosis was Lynn's radiologist. "I remember him sitting down and looking terribly sober at my bedside and giving me some statistics. I can't remember any of them, except the only one that registered was a very small one. He'd say, 'Ten percent of the patients we treat, they live. And then we have some percent we palliate for a while.' And I thought, 'Wow!' The only number I could hang on to was the little bitty one that said, 'These people make it.' I just thought, 'Don't tell me any other numbers, because I only want to believe that little one.' "

In addition to the surgery that removed most of her cancer, Lynn began receiving radiation and chemotherapy for the seed tumors and the liver metastases while she was still in the hospital. Then as an outpatient she drove from her home in Boulder to the hospital in Denver for her chemotherapy. She had one injection a day for a week and then would take pills for the rest of the month.

"I really got sick. I would try to have mind over matter but it just didn't always work. I'd just barely get back on the road to come home and throw up."

Lynn is unusual in that she was able to drive. Many patients and survivors had told me that they couldn't do anything after their chemotherapy, certainly not drive.

"Yeah, I drove. I *really* needed to do that. My folks didn't live here, and so they left after a while. My husband had to keep his job. And I'm independent enough that I *really needed* to be able to do things for myself. And I'm *glad* I did. I think people who can, I would encourage them to. Because you need to say, 'Boy, I *can* drive. I *can* do these things.' Even when the doctors would say, 'Oh, you never should, because you're on too much stuff, and you've still got stitches in your belly,' and all that. I drove a stick shift all the way down there, and it was just fine. I had to do that."

To drive her car was important to Lynn for another reason as well. During her radiation therapy, she told me, "I ended up driving a couple of folks back down from Boulder with me. They were also patients and we got to know each other. One lady was eighty-one, a metastatic breast patient who was getting radiation, a little maiden lady. And another was a Chicana lady who had just had a breast removed, and couldn't speak English very well. We were so different, but we *really* needed each other. Those car trips were something, with everyone feeling really crummy and throwing up, and laughing and crying, and we loved it. I just will never forget that. You never

would imagine, looking at a car with these three women driving, what was going on. It was such a help to me. We just all really loved each other. The older lady and I got to be good, good friends, because she lived not too far from my home, and I'd go over there and see her a lot when she was not doing well. She just gave me so much, just . . . just by being her."

Lynn had radiation therapy for ten weeks, intravenous chemotherapy for about six months, and oral chemotherapy on and off for a longer period. Although she lost a lot of weight, she gradually regained her strength and felt continually better. She saw Dr. Hamilton and her surgeon, Dr. Granberg, regularly, and her tests were always negative, clear of cancer signs.

Early in 1972 Dr. Hamilton told her that he wanted to do exploratory surgery so he could examine her liver and colon. "That was kind of a bomb," Lynn said, "because it was like, 'Wait a minute. You never said you were going to do that!' And I felt just as well as I do now. But my husband and I talked it over and felt there wasn't anything to lose. If I felt so well, that must mean something in my favor. And we trusted the doctors and so said yes. And it was really a snap. I thought maybe I'd be afraid, but I felt so well that it just seemed like it was a fact that there was nothing wrong. And in fact they didn't find anything. Evidently there had been some scarring on my liver that had been evidence of whatever was there before, but there was nothing else wrong with anything. It didn't then indicate any more chemotherapy, which they were going to start again, and I haven't had anything since then."

For several years, along with Dr. Hamilton, Lynn administered a program called CanSurmount, now offered by the American Cancer Society, in which recovered cancer patients visit bedridden cancer patients, offering emotional, and on occasion, physical support.

When I last spoke to Lynn, she was still fine, still, as she put it, "feeling so well." She is one of the 10 percent with her type of cancer, diagnosed at her late stage—when it had already spread to other parts of her body—to survive.

BASIC FACTS ABOUT CANCER

Lynn Ringer was successfully treated with all the currently accepted orthodox therapies for cancer: surgery, radiotherapy, and chemotherapy. These methods have been responsible for most cancer

cures. In order to understand how these treatments work against cancer, we must examine some basic facts about the disease.

We know that normal cells reproduce in the body in an orderly, predictable manner, their growth checked by some mechanism or complex interaction of mechanisms triggered by the presence of other cells. The center for this control is believed to be in the genes of each cell. Cancer cells, however, are outlaws. There is no communication between them and their neighbors. Their growth-inhibiting mechanisms have been shut down, and they reproduce endlessly, with total disregard for the needs of other cells. In the process of uncontrolled proliferation cancer cells invade the space and consume the nutrients needed by other cells.

When enough cancer cells have grown together, they form a tumor, also referred to as a neoplasm. Frequently, when a tumor reaches a certain size, cells split off and travel through the bloodstream or lymph system to distant organs, where they attach themselves and form new tumors. This spread is called metastasis. Eventually the greedy, unrestrained growth of these metastatic lesions causes the death of the entire organism.

Cancer specialists count more than a hundred different kinds of cancer, originating in different tissues, with different growth rates, patterns of metastasis, biochemical needs, and responses to treatment. Carcinomas, which arise from epithelial tissue—the type of cells that line the body cavities—are the most common cancers. Sarcomas are cancers of the connective tissue—bone, cartilage, or striated muscle. Lymphomas are cancers of lymph tissue. Leukemias are cancers of the blood-forming organs.

The therapies that work best in each case depend on the type of cancer and the stage at which it is discovered, making complete and accurate diagnosis crucial to successful outcome. Diagnostic methods include simple physical examination—for example, palpating the breasts for lumps, scrutinizing the larynx with a laryngeal mirror, examining the rectum and lower colon with a proctoscope or sigmoidoscope. Stool can be examined for traces of blood that might signify colon or other gastrointestinal cancer. Blood analyses that show elevated levels of the enzyme acid phosphatase suggest the presence of prostate cancer; another enzyme called alkaline phosphatase is elevated in patients with liver cancer or bone metastases.

Different kinds of diagnostic X rays are also used: mammograms

to detect breast cancer, chest X rays for lung cancer, computer axial tomography or CAT scans for brain and other deep-seated tumors. Sometimes patients are given radioactive substances or dyes, either orally or by injection. These are followed by X rays to reveal obstructions or other internal abnormalities. Thermography is a heat-sensing technique that shows a rise in temperature, associated with inflammatory or malignant lesions.

Any of these tests might suggest the presence of cancer, but final proof that cancer exists can only be made by biopsy diagnosis. This means that a surgeon removes a sample of the suspicious tissue, which is then examined under a microscope by trained pathologists, who can determine the type of cancer and to what degree it is malignant. Biopsies of deep tissue must be performed in an operating room; biopsies of superficial tissue take place in the doctor's office. Perhaps the most common office biopsy, done routinely as part of gynecological examinations, is the pap smear, named after Dr. George Papanicolaou, the doctor who developed it. In this procedure a sample of tissue is scraped from the mouth of the womb and examined under a microscope to reveal the presence of cancerous cells at the cervix.

How far cancer has spread can be determined by physical and/or surgical examination. In most types of cancer a diagnosis of *in situ* means that cancer is detectable only at the site examined. A diagnosis of stage one means that the cancer is still localized. Stage two means there has been regional spread, usually involving lymph nodes closest to the cancer site. In stage three cancer has spread to nearby organs, while stage four means distant metastases. In all types of cancer survival rates are highest for stage one cancers and drop once cancers have spread.

The term *survival rate* is used more often than *cure* because the disease can recur as long as twenty years after a supposed cure, and in most forms of cancer such recurrences can't be treated successfully. There are several terms used to indicate therapeutic effect. *Remission* means a temporary improvement in the patient, generally followed by deterioration. *Regression* means that a tumor has grown smaller or has disappeared. *Five-year survival* means that patients lived for five years after diagnosis, either with or without cancer.

What does the current 46 percent five-year survival figure tell

us about cures? If a patient dies of his cancer after seven years, he is still counted as a five-year survivor in the statistics. According to one National Cancer Institute study 85 percent of five-year survivors were still alive after twenty years. The exceptions are cancers of the breast, prostate, and kidney, for which five-year survival is not as strong an indicator of long-term recovery. In recent years it has become possible to speak of cures for a wide variety of cancers because of new therapies and improvements in ancient ones.

THE DEVELOPMENT OF CANCER TREATMENTS

Surgery has always been the front line of orthodox cancer therapies. Mention of the knife to treat cancer dates back to ancient Egyptian and Indian records of 2500 B.C. Ironically, advances in surgery were held back in part by the theories of Hippocrates (about 400 B.C.), the father of medicine, whose brilliant observations had an incalculable influence on the development of medical science. He advised surgery only for early cancers in which the tumor was visible, and advocated no treatment in the case of late or hidden cancers. More significant in retarding the progress of surgery was his widely accepted humoral theory. In his view all diseases were caused by imbalances among the four humors of the body: blood, which came from the heart; phlegm, which came from the head; yellow bile, which came from the liver; and black bile, which came from the spleen. According to Hippocrates cancer was caused by an excess of black bile.

During the first century A.D. the Roman physician Aulus Cornelius Celsus tied off blood vessels after he performed cancer surgery and Leonides of Alexandria used a scalpel to perform mastectomies and prevented hemorrhage through cauterization in the second century A.D. However, real progress in cancer surgery was not made until the eighteenth century, when the French surgeon Henri Le dran showed the humoral theory to be false. He demonstrated that cancer cells spread through the lymph system.

Although earlier researchers postulated that the cell was the basic unit of the tumor, it was the development of the achromatic microscope in the nineteenth century that enabled pathologist Rudolf Virchow to state definitively that all morbid processes occur in the cell. In addition the nineteenth century saw the development of anesthesia, and asepsis—destroying harmful bacteria by scrubbing

the surgeon's hands and sterilizing equipment. These advances reduced operative mortality and made enormous strides in surgery possible. Brain surgery became feasible. Early in the twentieth century surgeon William Halsted developed the radical mastectomy that bears his name. By removing the entire breast, the main pectoral muscle, and the lymph nodes under the arm, Dr. Halsted reduced the rate of local recurrence from between 60 and 80 percent down to between 10 and 20 percent. Recent advances in surgery include the use of laser beams, which make it possible for surgeons to perform extraordinarily delicate operations in areas that were formerly inoperable.

Surgery is most successful as a cure for small cancers that have not yet spread. For example, the five-year survival rate for an early, localized prostate cancer treated by surgery alone is 77 percent in whites, 66 percent in black men (blacks generally have poorer survival rates than whites, and the National Cancer Institute reports two separate sets of statistics for blacks and whites); for an early uterine cancer the five-year survival rate is 90 percent in white women, 69 percent in black women. Yet surgery is limited by the nature of cancer. Once a tumor has grown greater than a certain size or has spread beyond the primary site, it is frequently inoperable because it has invaded major organs or blood vessels. In later stages it may metastasize to places where it is not detectable or where surgery cannot reach. When metastasis has occurred, the five-year survival rate for prostate cancer drops to 39 percent for white men, 33 percent for blacks; in uterine cancer it drops to 40 percent for white women and 18 percent for black women.

It has long been clear that cutting up the body is not the answer to cancer. One of the tragic clichés of the disease comes from patients who suffer from a recurrence after a supposedly successful operation: "Well, they thought they got it all, but I guess they didn't." In 1938 noted German surgeon Ferdinand Sauerbruch said, "We surgeons know we are merely removing the gross anatomical defect, but this does not have any effect on the disease as such." In 1970 Sir John Bruce, Regius Professor of Clinical Surgery at Edinburgh University and past president of the Royal College of Surgeons, said of cancer treatments, "The future lies elsewhere than in the operating room."

At the beginning of the twentieth century the X ray, discovered by Wilhelm Roentgen, was regarded as a universal panacea for all

man's ills. As a cancer therapy, radioactive waves were used to destroy small inoperable tumors. X rays proved more deadly to cancer cells than to normal cells, although the ray that destroyed cancerous tissue also burned healthy tissue and caused radiation sickness.

Doses of radiation are measured in units called rads; with some individual variation different parts of the body can tolerate different amounts of rads. The intestines, for example, can take 4,500 to 5,000 over a period of four to five weeks without serious tissue damage in most patients. The bladder can stand up to 6,000 or 7,000 rads, the spinal cord 4,000, and the kidneys only 2,000. Unfortunately the doses needed to treat certain tumors effectively are often as high as or higher than the doses that can be tolerated by normal tissues. For instance, in lymphoma patients with clinically positive lymph nodes doses of higher than 5,000 rads are administered. For Hodgkin's disease, when large masses of lymph nodes must be treated, radiation doses can be as high as 4,000 to 4,500 rads. To treat brain tumors called astrocytomas the dose is 7,000 rads, and to treat breast cancer without mastectomy doses of between 6,000 to 7,000 rads are necessary.

It seemed that the value of radiotherapy was rather limited, but throughout the twentieth century radiotherapy machines have been improved, primarily by narrowing down the ray so that it focuses on the smallest area of cancer cells, leaving healthy cells intact. Radiotherapists also developed machines whose beams pass quickly through healthy tissue and deliver their highest dose of radiation to the tumor. In addition, radiotherapists learned to irradiate their patients from several different angles, all focusing on the tumor but passing only briefly through areas of normal tissue. Another development was radioactive implants that could be left at the site of the tumor, constantly destroying cancerous cells.

Because of these improvements survival rates for nonmetastasizing skin cancers and cancers of the lip, mouth, pharynx, laryngeal glottis, uterine cervix, certain cancers of the urinary bladder, and malignant lymphomas in stages one and two have risen in the past fifteen years. For some early prostate cancers radiotherapy may be as effective as surgery. Radiotherapy is also a palliative, used to relieve pain caused by metastases to lymph nodes, bone, and soft tissues.

But radiotherapy is clearly not the cure for cancer. Even those cancers responsive to radiotherapy are not routinely healed with radiation, particularly those devastatingly rapid killers—the leukemias and disseminated lymphomas.

Doctors have long hoped that cancer eventually could be controlled by drugs. A study of medical journals throughout the decades reveals a large number of substances that successfully shrink tumors, but none that cures cancer. Since antiquity arsenic, zinc, or caustic alkaline substances were the most commonly used. They were frequently mixed into pastes that were applied to external cancers (for example, Fowler's solution, a compound containing arsenic, is mentioned as a treatment for Hodgkin's disease in one 1892 medical textbook).

All of these substances were eventually abandoned because they were too toxic to the patient or because cancers would recur. The search continued. Before World War II Dr. Charles B. Huggins of the University of Chicago found that the female sex hormone estrogen stopped the growth of prostate cancer, but it had undesirable side effects that limited its use. In 1945 one cancer researcher scoffed that the chances of finding a drug that would destroy cancer cells and not harm normal cells were as great as those of finding an oral drug that would dissolve one ear and not the other. But when a World War II ship carrying the deadly poison mustard gas exploded, scientists were amazed to discover that the gas had selectively damaged the lymph system and the bone marrow of the men it killed. Physicians at Yale began to try a related compound, nitrogen mustard, on cancers of the blood and lymph system. The doctors observed marked reduction of tumor masses, but these returned and the patients died. Because there was some response, however, researchers persisted.

In 1947 the late Dr. Sidney Farber of the Children's Cancer Research Foundation in Boston treated sixteen leukemic children with an agent called aminopterin, and achieved temporary remissions with ten of them. The era of chemotherapy was born.

Chemotherapeutic agents are cell poisons, called cytotoxins, that work throughout the system, destroying cancer cells that surgery or radiation may have left behind, wherever these stray malignant cells may be. Like radiation, chemotherapy destroys the reproductive capability of cells, working best on cells that divide rapidly.

There are several different classes of chemotherapeutic agents,

each working in a slightly different way. Nitrogen mustard, for example, is one of a group of chemicals known as alkylating agents. These drugs act by blocking reproduction of the DNA chain during cell division. Other agents in this family include busulfan, melphalan, and cyclophosphamide.

The antimetabolites, which include methotrexate, 5-fluorouracil, and 6-mercaptopurine, cause cell death by preventing the production of nucleic acids and proteins necessary to form DNA.

Antibiotics used against cancer include mithramycin, Adriamycin, bleomycin, and daunomycin. These work in several different ways: by inhibiting DNA, RNA, or protein synthesis or by interfering with various cell functions.

The plant alkaloids, vinblastine and vincristine, work by inhibiting mitosis or cell division.

One enzyme, l-asparaginase, is used to treat certain leukemias. It breaks down asparagine, an amino acid essential for cell growth.

The steroid hormones include the androgens—such as testosterone—the estrogens—such as estradiol and diethylstilbestrol—and analogues of the adrenalcortico steroids—such as prednisone. These change the hormone balance and, since the growth of some cancers is hormone dependent, in some cases slow the growth of such cancers as breast and prostate.

Initially chemotherapeutic agents were used singly, but since cancer cells develop resistance to drugs, today several cancer drugs are often used in combination. These drug treatment plans are called protocols.

Combination chemotherapy has had dramatic successes in treating cancers of the rapidly dividing lymph and blood cells: the leukemias, the lymphomas, and Hodgkin's disease (a type of lymph cancer). These neoplasms account for 8 percent of all cancers in men and 7 percent in women.

A diagnosis of acute myelocytic leukemia used to mean patients could expect to live for less than a year. Now, however, using such combinations of chemotherapeutic drugs as ara-C and daunorubicin, the complete remission rate in acute myelocytic leukemia reaches 50 percent or more. Between 30 to 42 percent of those who have complete remissions are alive after two years.

Prednisone, vincristine, methotrexate, and 6-mercaptopurine, referred to as the POMP program, have produced complete remis-

sion rates in 85 percent of patients with acute lymphocytic leukemia, a childhood cancer that was invariably and swiftly fatal. Several recent studies have shown five-year survivals as high as 60 percent.

Hodgkin's disease is a cancer of the lymph cells that strikes primarily young people; the average age of a Hodgkin's patient is thirty-two years. In 1982 there were an estimated seven thousand new cases of Hodgkin's disease in the United States. Untreated, this disease is always fatal. For patients diagnosed between 1960 and 1963 the relative five-year survival was 40 percent; for patients diagnosed between 1970 and 1973 the overall five-year survival figure had risen to 67 percent, thanks to a combination of the drugs vincristine, cyclophosphamide, procarbazine, and prednisone, known as the MOPP program.

The success of chemotherapy led to the development of the medical subspecialty called oncology, established in 1973. An oncologist specializes in the study of tumors, and although there are surgical oncologists and radiation oncologists, most of the 1,788 oncologists who had been certified by the end of 1981 are experts in chemotherapy.

Discovering which drugs will work best for which cancers is complex and time-consuming. Not all patients react the same way to chemotherapeutic agents; studies are now going on to find ways to predetermine which drugs will be most successful with which patients. Finding the right protocol is further complicated because there is growing evidence that the size of the chemotherapeutic dose and duration of treatment may also influence survival rates in certain cancers.

Protocols used in most American cancer centers call for chemotherapy to be given in moderate doses in treatment schedules spread out over a year or more. In Bonn, Germany, Janker Clinic Director Hans Hoefer-Janker and Assistant Director Wolfgang Scheef use extremely high doses of chemotherapy in a period of one to two weeks, claiming spectacular successes in patients who have widely metastasized cancers.

The latest direction in cancer therapy is to use not only combinations of drugs, but combinations of therapies. In osteogenic sarcoma, for example, the type of cancer that afflicted Barbra Walz, there have been promising results when chemotherapy or radiation has been used before surgery. In some cases such combined therapies

can allow simple bone replacement rather than amputation. Stages three and four squamous cell carcinoma of the head and neck are usually considered inoperable. But with chemotherapy some tumor regression is seen in about 80 percent of all patients, frequently rendering the tumor operable.

Combinations of chemotherapeutic agents preceded by surgery and radiotherapy are responsible for increased cure rates with such rapidly growing solid tumors as choriocarcinoma, a formerly fatal tumor that appears during 2 out of every 100,000 pregnancies in the United States. Today more than 50 percent of all patients are cured with the use of surgery and drugs. Wilms's tumor, a rare childhood cancer of the kidney, also nearly always fatal, now has a 70 percent survival rate.

Other therapeutic combinations are also being explored, including a group of chemicals that have been found to sensitize cancer cells to radiotherapy. At this writing trials are being conducted to test whether this class of drugs, metronidazole, can be of value in the treatment of glioblastoma, a particularly deadly form of brain tumor.

The three modalities of contemporary cancer medicine have increased survival times for many different kinds of cancer. However, since most of the advances have come in the rarer cancers, the overall five-year survival rate for all types of cancer in all stages is still only 46 percent.

Despite the best efforts of dedicated cancer researchers throughout the world, using the most advanced combinations of surgery, radiation, and chemotherapy, survival rates for the three most common cancers—lung, colon and rectum, and breast in women—have improved little in the past twenty years.

BREAST CANCER

Of the three, the greatest progress has been seen in the treatment of breast cancer, the primary site of cancer deaths in women. An estimated 112,000 women were diagnosed as having breast cancer in 1982. According to data gathered by the National Cancer Institute's SEER (Surveillance, Epidemiology, and End Results) program, the overall five-year survival figure for breast cancer has increased from 63 percent for those patients diagnosed between 1960 and 1963, to

72 percent for those diagnosed between 1973 and 1979. As with all other cancers the survival figures are dramatically better for those cancers discovered early. Treatment of early breast cancers results in five-year survivals of 87 percent; the overall five-year survival figure for breast cancers that have spread is 47 percent.

The importance of early detection in breast cancer cannot be emphasized too strongly. I had great difficulty finding long-term breast cancer survivors who were diagnosed when their disease was advanced. When I asked one physician—a breast cancer expert—for names of long-term survivors who had recovered from advanced disease, he gave me a list of five women. Each of them turned out to have had small, early breast lesions with little or no lymph node involvement. His message was clear: The long-term survivors of breast cancer are those whose cancers are detected *early*.

Women with breast cancer have a number of different treatment options, beginning at biopsy. It was once standard procedure for women to have what is known as one-step breast surgery. If a lump was found to be malignant, a mastectomy was done immediately, while the woman was still anesthetized. Women were continually impressed with the need for rapid action and were expected to sign hospital release forms that would allow their surgeons to amputate the cancerous breast without needing further permission.

In the past few years, however, the medical attitude has changed. More physicians believe that a few days or a week between biopsy and surgery won't make a significant difference in survival time in most types of breast cancer. Increasing numbers of women are electing to have a biopsy, wait for the results, and then schedule surgery.

This two-step procedure allows a woman the time to discuss with her doctor what kind of breast surgery she should undergo. Until about ten years ago the preferred operation for breast cancer was William Halsted's radical mastectomy. Halsted's operation was probably so successful at reducing local recurrences because the women he saw generally had large tumors with extensive lymph node involvement.

The radical mastectomy, which leaves women considerably scarred and mutilated, is still perhaps the most commonly used surgery for breast cancer. However with today's great emphasis on early detection women are initially seen with much smaller tumors

that may require lesser surgery. Recent research findings indicate that the radical may not be necessary for long survival times. Surgical options now available to women with breast cancer include the radical, the modified radical—removing the breast and lymph nodes but sparing the major pectoral and sometimes the minor pectoral muscle—and total or simple mastectomy—removal of the breast but not the pectoral muscles or lymph nodes. Women who choose lesser surgery usually are treated with postoperative radiotherapy as well.

In late spring of 1979 the NCI recommended lesser surgery for women with early breast cancers who had no lymph node involvement. This decision was made only after years of statistics from many sources proved repeatedly that there was no difference in survival rates among women who had the radical, modified radical, or simple mastectomy.

The most recent development in breast cancer surgery is simple removal of the tumor alone, called lumpectomy, tylectomy, or wedge resection. This very limited surgery is appropriate for women with very early breast cancers. One recent Italian study of women whose breast tumors measured less than two centimeters showed no difference in disease-free survival times between breast cancer patients who had only the lumpectomy, followed by a course of preventive radiotherapy, and those patients who had a radical mastectomy.

The lumpectomy is regarded with great skepticism by many surgeons, some of whom say they are not convinced by the studies. One New York surgeon stated that he only recently began to perform lumpectomies, and then only with reluctance for those women who insisted on them. The reason he is unenthusiastic is that microscopic examination of breasts removed for one palpable tumor have shown a significant incidence of several microscopic tumor sites.

All studies recommending lesser surgery are accompanied by controversy. Dr. Theodore R. Miller, for example, emeritus attending surgeon and former chief of the Bone Service, Department of Surgery, at New York's Memorial Hospital, expressed the views of several generations of surgeons when he told me that the only way to treat breast cancer successfully was "Find it early and treat it radically. That means radical mastectomy. That's the only thing you can do."

When I observed breast surgery at Memorial, I understood one reason why surgeons prefer to do the radical. In a modified opera-

tion, when the big chest muscle is not removed, it must be held out of the way by an assistant in order for the physician to clean out all the lymph nodes under the collarbone. It is a painstaking and arduous procedure, and is much easier to do well when the muscle is not there. Despite greater ease the radical is more extensive surgery and some patients feel that it is used so frequently because surgeons charge more to do it.

The idea that cancer patients have any say in their therapy is shocking to most physicians. Rare is the M.D. like New York's Philip Strax, director of the Guttmann Institute, the largest breast cancer screening center in the United States, who stated, "Breast surgery is such a trauma that I always consider the woman's emotional reaction. Some women will feel more secure with major surgery even for a small cancer. Others would be so devastated by a radical that it would impair their will to live and their ability to fight the cancer."

Surgery and radiotherapy are not the only weapons used against breast cancer. Surgical adjuvant chemotherapy, or chemotherapy used after surgery, is responsible for longer survival times. The first clinical trial of this approach in stage one or two breast cancer was completed in 1958 by the National Surgical Adjuvant Breast Project. Treated postmenopausal women who had four or more positive lymph nodes at the time of mastectomy had significantly longer survival times than the control group. Fifty-seven percent of the treated women survived for five years as opposed to 24 percent of the women who received a placebo.

In a 1964 Scandinavian study more than 500 women were treated after surgery with one six-day course of the drug cyclophosphamide. A second group of 519 patients received no chemotherapy and served as the controls. Nearly all in the treated group also had radiotherapy after chemotherapy. There were 45 percent recurrences and 33 percent deaths in the control group versus 35 percent recurrences and 29 percent deaths in the treated group. Ten years after surgery 10.5 percent more of the treated women survived than the controls.

Combination chemotherapy gave even better results. In a 1969 study of one hundred women who had four or more positive lymph nodes at the time of mastectomy, those who were treated for nine months with a combination of cyclophosphamide, methotrexate, 5-

fluorouracil, vincristine, and prednisone (CMFVP) had a recurrence-free survival rate of 68 percent after eight years. This was a significant improvement over survival rates in a historical control group of more than fourteen thousand women with one or more positive lymph nodes at diagnosis. Even though this was a population whose cancers were discovered somewhat earlier than those in the treated group, only 42 percent of these women were alive after eight years.

A 1971 study showed combinations of cyclophosphamide, methotrexate, and 5-fluorouracil (CMF) to be significantly more effective than one drug, L-phenylalanine mustard (L-PAM), in treating women who had more than one positive lymph node at mastectomy. A significant delay in the appearance of recurrences was experienced by both premenopausal and postmenopausal women, although the improvement did not persist in postmenopausal women. At about four years the recurrence rate was the same as it had been for untreated women.

CMF is the drug regimen of choice for breast cancer patients today. However more research is needed. Scientists don't yet know whether this is the best combination, or the optimal length of treatment.

LUNG CANCER

An estimated 129,000 new cases of lung cancer were diagnosed in 1982—up from 93,000 in 1976. Between 1952 and 1972 the death rates for all kinds of lung cancer have increased 177 percent in women and 122 percent in men. The median survival time from diagnosis is less than six months and the overall five-year survival remains between 8 and 12 percent.

There are different survival statistics for each type of lung cancer, although early detection almost invariably results in longer survival. Epidermoid carcinoma, which represents 42 percent of all lung cancers, has the best survival rate. Forty-six percent of patients whose tumors are smaller than three centimeters when diagnosed, survive for five years. Adenocarcinoma, which represents 10 percent of all lung cancers, has a 38 percent five-year survival rate. Large cell carcinoma, which represents 22 percent of all lung cancers, has a 17 percent five-year survival rate. The lowest survival rates are for small cell anaplastic carcinoma, a rapidly growing type that repre-

sents 10 percent of all lung cancers. Less than 3 percent of those whose cancers are discovered early survive for five years and more than 95 percent of small cell patients are diagnosed when their cancer has already spread.

Survival rates drop dramatically when there is lymph node involvement: to 19 percent in epidermoid carcinoma, to 7 percent in adenocarcinoma, and to 5 percent in large cell carcinoma. And yet even with these dismal survival figures, there are those patients who recover completely. Arthur Godfrey, now nearly eighty years old, developed lung cancer in 1959. His tumor was wrapped around his aorta, but his surgeon found no evidence of metastases, and so removed the upper left lobe of Godfrey's lung. He was treated with six weeks of cobalt and has had no recurrences.

Surgery is the treatment of choice for operable tumors. The entire lung is frequently removed, but there is a growing trend to remove only the affected lobe. Lobectomy is the safer procedure, with an operative mortality rate of 9 percent as opposed to 17 percent for pneumonectomy.

Preoperative radiotherapy has shown some tumor shrinkage but no increase in survival times. Although postsurgical radiotherapy was of benefit to Arthur Godfrey, it is now out of favor. In one recent study it offered no increase in the three-year survival rate and actually appeared to increase the number of patients who had distant metastases—44 percent in those patients who were irradiated and 28 percent in those who were not.

Adjuvant chemotherapy has shown some promise with small cell carcinoma. When two, three, or four agents are combined for treatment, there is some tumor shrinkage in between 60 to 80 percent of patients, with complete tumor regression in 20 to 40 percent. This increase in remission is not reflected in longer survival times, however. Combinations of chemotherapy and radiotherapy have caused complete remissions in about 50 percent of patients. These remissions tend to be short-lived, with only 25 to 30 percent of these patients still in remission after three years.

Although lung cancer has been resistant to the existing modes of therapy, other approaches are being investigated.

Richard Bloch, a cofounder of H & R Block, benefited from an unusual combination of therapies. In March 1978 he was told he had inoperable lung cancer and that no treatment would help him. "If I were you, I would get my estate in order," the surgeon told him.

When Bloch pressed, the physician said he would be happy to send Bloch anywhere he wanted to go, but that no one knew any more than the experts he worked with.

Bloch knew he would never accept the surgeon's prediction without a fight, but the initial shock left him dazed, not knowing where to turn for answers. A friend whose wife had had cancer called that evening and told Bloch to speak to a physician at M. D. Anderson, the cancer center in Houston, Texas. There, after a day of grueling tests, the Texas doctor told him, "Dick, you are a very sick boy. We are going to make you a lot sicker, but we are going to cure you." This doctor's optimism made Bloch feel, for the first time since his diagnosis, that there was hope for him.

The treatment protocol began with two weeks of daily radiotherapy to kill the mass of cancer cells. This was followed by one week of chemotherapy to destroy any remaining tumor cells in the blood or lymph. Surgery followed, revealing a tumor that had shrunk so much that every bit of it could be removed. After surgery Bloch had a month of immunotherapy to stimulate his immune system, and then a year of chemotherapy. At the end of that year, in May 1980, his Houston physician told him he was cured and that he had less chance of a recurrence than anyone else had of getting a primary lung cancer.

Bloch knew that he recovered because he got the most advanced medical treatment available. He also knew that because it takes so long to disseminate information on the latest treatment protocols, most physicians do not have access to them—and may not even be aware that they exist. So Bloch set up a cancer management center in Kansas City, where cancer patients meet with a group of five to ten experts in the patient's type of cancer. These doctors review the patient's records, decide which treatment or combination of treatments have the best chance of success, and draw up a treatment plan for the patient to give to his doctor. The Kansas City center is a pilot program, to be followed by centers around the country.

Immunotherapy, which helped Richard Bloch to recover, will be examined beginning on page 207. Other approaches to lung cancer are also being tried. For example, there has been some experimentation with drugs that increase the time it takes for blood to clot, based on the hypothesis that anticoagulation can prevent attachment of platelets to endothelium, limiting metastases. In one experiment patients were given the anticoagulant drug warfarin in addition to

radiation and chemotherapy. The treated patients had more bleeding episodes than the control group, but metastases did not appear in the patients who took warfarin for thirty-two weeks while they appeared in the control group in fifteen weeks. The treated patients survived for an average of fifty weeks while the controls lived for only twenty-four weeks. Granted, these survival times are short, but the improvement indicates some therapeutic value in this approach.

COLON AND RECTAL CANCER

There were about 123,000 new cases of colon and rectal cancer diagnosed in 1982 in the United States. The overall five-year survival rate for both these types of cancer is about 48 percent. For early colon cancers the rate is 76 percent and for early rectal cancers it is 73 percent. When these cancers have spread to other parts of the body, the five-year survival rate plummets to 28 percent for colon cancer and to 23 percent for rectal.

The past twenty years have seen no improvement in survival rates as a result of surgery, and although increasing numbers of oncologists are using surgical adjuvant chemotherapy in this type of cancer, there is no evidence that single or combination chemotherapy results in a significantly longer time before recurrence or in longer survival times. This is a situation that many oncologists find frustrating because some chemotherapeutic agents are very effective at shrinking colon tumors. Five-fluorouracil has caused some tumor shrinkage in an average of 20 percent of all cases, but tumors have regrown, and toxicity at doses large enough to affect tumors is very high.

Preoperative radiotherapy showed an improved five- and ten-year survival rate in patients with the type of rectal cancer known as Dukes C. In two major studies patients treated with postoperative radiotherapy had fewer local recurrences: from 37 to 48 percent down to 6 to 8 percent. Unfortunately distant metastases appeared later in 20 to 30 percent of the treated patients.

SIDE EFFECTS OF SURGERY

The traditional cancer treatments have been responsible for increased survival times and even for cures in many different kinds of cancer. But these methods are all, to varying degrees, harmful to the

body as well as to the tumor. The physical suffering and emotional depression they cause often make them seem like medieval tortures, each with its own catalogue of harsh effects.

Everyone has a litany of horror stories about cancer surgery: super-radical operations after which the patient died within a week, postsurgical infection and other complications, surgery that could not have extended life but was performed anyway.

There are sometimes side effects caused by specific operations as well. After a radical mastectomy, for example, when lymph nodes under the arm are removed, 70 percent of all women suffer from a condition known as lymphedema. In this disability the lymphatic fluid cannot circulate and becomes trapped in the arm, causing it to swell. This condition can be mild, but in 10 percent of all women it is extreme, with the arm swelling to more than twice its normal size and sometimes becoming horribly painful. All brain surgery leaves patients with a tendency to have seizures that must be controlled with corticosteroids—a class of hormones that have their own dangerous side effects.

Many patients fear that cancer actually can be spread by surgery. According to *Cancer: Principles and Practice of Oncology*, a massive primer edited by Vincent De Vita, Jr., M.D., director of the National Cancer Institute; Samuel Hellman, M.D., director of the Joint Center for Radiation Therapy at the Harvard Medical School; and Steven A. Rosenberg, M.D., Ph.D., chief of surgery at the National Cancer Institute, "There seems to be little doubt that cancer can be spread from the primary site to distant tissues through exfoliation [shedding or peeling] of tumor . . . cells . . . and subsequent implantation and growth of these tumor cells." The authors refer to a study that outlines ". . . the numerous ways that surgical manipulations could be responsible for this phenomenon."

In another basic text, *Cancer Medicine*, edited by James Holland, M.D., professor and chairman of the Department of Neoplastic Diseases and director of the Cancer Center at Mount Sinai School of Medicine; and Emil Frei III, M.D., director and physician-in-chief of the Sidney Farber Cancer Institute, an article by Umberto Veronesi, professor of surgery at Milan University, states that there is no clear evidence that tumor cells spread during surgery affect survival times. Yet Dr. Veronesi warns that ". . . rough or clumsy manipulation of tumor tissue does carry a potential risk of disseminating

tumor cells in the operative field . . . these may give rise to local recurrences of the disease." He devotes several paragraphs to precautions that surgeons should take during biopsies to prevent such spread.

SIDE EFFECTS OF RADIOTHERAPY

Radiotherapists maintain that improvements in equipment have made radiation burns obsolete, but I met patients whose skin was welted as a result of overradiation. Dr. MacCarthy-Leventhal, a physician stricken with cancer, suffered a permanent loss of taste sensation because of radiotherapy. She described the taste of food as cinders.

Other drawbacks of radiotherapy include some bone death in the mouth following treatment of the tongue, the floor of the mouth, or the gums. A small percentage of patients who get radiotherapy for carcinoma of the cervix develop varying degrees of colon constriction, which may require surgery.

Radiation sickness, a well-known side effect of radiotherapy, is characterized by fatigue, anorexia (loss of appetite), and vomiting. These symptoms are short-lived, generally lasting only for a day, and any symptoms that persist are probably due to something else. Radiation sickness is most likely to occur when the treated area includes the stomach, although some symptoms may occur when the chest is irradiated.

Permanent dilation of small capillaries and arteries under the skin and loss of skin color may occur in patients who have a wide area treated, as in breast cancer. Hair loss is temporary after doses of between 750 to 2,000 rads, but can be long-lasting or permanent when more than 5,000 rads are given. Single large doses of radiation can cause tumors to swell, which is particularly dangerous for brain tumors. Sometimes patients receive large doses of corticosteroids to prevent this.

Ionizing radiation that falls on the conjunctiva of the eye causes a type of conjunctivitis. Sterility in women can be a side effect of irradiation of the ovaries. In women who are close to menopause, as little as 400 rads can cause amenorrhea. Irradiation also can stunt growth in children.

To counteract the damaging effects of radiotherapy, antira-

diotherapy drugs are being developed. The most successful was developed by the Antiradiation Drug Development Program of the U.S. Army and has increased resistance to radiation in bone marrow, immune system, liver, skin, and testes.

SIDE EFFECTS OF CHEMOTHERAPY

Chemotherapists told me of lives that were being saved through chemotherapy, but patients must be willing to bear the side effects. Joan Santos, recovering from breast cancer surgery and following a chemotherapy protocol, told me, "I'm sick for three days after I get my shots, sick as a dog. Sometimes I wonder why I go on with it. I don't see how it could be doing me any good if it makes me feel the way I do." Hubert Humphrey called his chemotherapy "death in a bottle."

Although the aim of chemotherapy is to kill cancer cells and not harm healthy cells, unfortunately there are very few differences between cancer cells and healthy cells that can be therapeutically exploited. The major difference is that cancer cells divide rapidly, but other cells of the body divide rapidly as well, including the cells of the bone marrow, and hair follicles, and the cells lining the digestive tract, urinary tract, and kidney tubes. The destruction of these cells causes the weakness, devastating hair loss, nausea, vomiting, and diarrhea that so frequently accompany both chemotherapy and radiation.

Damage to the intestinal tract can be carefully monitored and chemotherapeutic drugs can be reduced or stopped before there is severe toxicity. However, according to *Cancer Medicine*, "The long-term consequences of antineoplastic treatment are of special concern, particularly cumulative organ toxicity that is insidious in onset and manifested clinically only after the damage has become severe and irresistible."

Particular drugs have been associated with toxic effects on certain organs. Liver damage, for example, has been seen with the drugs methotrexate, azathioprine, and 6-mercaptopurine. Methotrexate can exacerbate cirrhosis of the liver, suggesting that the drug be avoided in alcoholic patients.

Lung damage usually resulting in death has been seen with use of the drug busulfan. With a total dose greater than 550 mg of

bleomycin, fatal pulmonary toxicity will occur in 10 percent of patients. Bleomycin can also increase lung damage previously caused by radiotherapy. Corticosteroids are commonly administered after the drug has been stopped in order to counteract its effects, but no studies have been done to determine the efficacy of this technique. An abnormal growth of the fibrous tissues of the lungs is seen with the alkylating agents. This pulmonary fibrosis tends to be progressive and requires constant monitoring.

Short-term changes in heart function have occurred in 11 percent of patients receiving Adriamycin. In eight of nine patients who receive doses greater than 300 mg/m^2 of body surface area, decreased left ventricle function has been observed, though the heart returns to normal once the drug has been withdrawn. However when patients receive a total dose greater than 500 mg/m^2 of their body surface area, 30 percent develop cardiac failure. At one time this condition was fatal in 30 to 75 percent of patients, but these statistics have been improved by early recognition and treatment of the problem. Doses of cyclophosphamide between 60 and 120 mg/kg have caused heart muscle death or heart attacks. Mitomycin C, if preceded by Adriamycin, may produce cardiac dysfunction in up to 15 percent of patients.

Kidney damage can be produced by the nitrosoureas. Children who have been treated for brain tumors with methyl-CCNU show an increased incidence of progressive kidney atrophy and fibrosis. Years after cis-Platinum treatment there may be damage to renal tubules. Cyclophosphamide causes a great number of complications involving the lower urinary tract; some reversible kidney damage has been seen with doses in excess of 50 mg/kg per day. More serious, methotrexate can cause fatal renal failure, particularly in older patients.

The reproductive organs are sensitive to chemotherapy. Chlorambucil and cyclophosphamide have been associated with temporarily decreased sperm production. If combination chemotherapy contains procarbazine, there is less frequent recovery of the gonads. The testes in boys before puberty are much more resistant to damage from alkylating agents than adults, although there is some damage at high doses of these drugs. During puberty, however, chemotherapy can reduce germ cell production. Testosterone levels were low-normal and germinal atrophy was observed in

teen-age Hodgkin's patients receiving MOPP combination chemotherapy.

Women may have irregular menstrual cycles and sometimes menstruation ceases after the use of busulfan, cyclophosphamide, chlorambucil, and vinblastine. Cyclophosphamide seems to be the most strongly associated with cessation of menses. This condition may be permanent when treatment has gone on for one year or longer.

Because many anticancer agents cause fetal damage in laboratory animals, researchers were concerned that some might deform human fetuses if administered during the first four months of pregnancy. Although several chemotherapeutic drugs have been used to induce abortions, the incidence of drug-induced congenital abnormalities seems to be fewer than expected during the first three months of pregnancy and appears to cause no increased risk of birth defects during the last six months. However women are warned not to become pregnant while taking chemotherapy, as there may be an effect on the eventual fertility of the baby, particularly in girls, since the ova are formed during fetal development.

Perhaps most significant, both chemotherapy and radiation damage the bone marrow, destroying the rapidly dividing lymph and white blood cells that form the body's major defenses against all diseases. While heavy doses of chemotherapy may destroy a patient's cancer, they can also leave him unprotected against the mildest bacteria. With such impaired immune response cancer patients undergoing chemotherapy frequently die of such infectious diseases as pneumonia. Ironically these immune system cells that chemotherapy destroys are a major part of the body's internal defense against cancer. According to Dr. Dean Burk, former head of the cytochemistry division at the NCI, cancer cells never multiply as fast as the fastest-growing normal cells in the body, so these rapidly growing defense cells are always damaged more than even the most sensitive tumor.

COUNTERACTING SIDE EFFECTS OF CHEMOTHERAPY

Dr. Joseph H. Burchenal, director of clinical investigation at Memorial Hospital for Cancer and Allied Diseases, points out that chemo-

therapy's toxic side effects can be controlled to some extent through judicious combinations of drugs. "For instance, vincristine has a toxic effect on the peripheral nerves. It causes numbness and tingling, loss of reflexes, and can cause a lot of serious constipation—neurogenic constipation. It doesn't have much effect on the bone marrow. You can give that along with, say, methotrexate or something like that, which damages the bone marrow. You could give a full dose of each one and get to the point of moderate damage to the bone marrow and moderate neurologic impairment, and still have a summation effect on the tumor. Then if you give another thing like cis-Platinum diaminodichloride, which is at the moment limited by its nephrotoxicity [damage to kidneys] more than anything else, and if you steer just shy of that, you're not going to have any bone marrow toxicity or any nerve toxicity, so there you get the summation of three effects, as maximal as you can get effects on the tumor."

Toxicity can be reduced by varying drug dosage as well. For example, there is evidence that less heart damage is done when Adriamycin is administered on a low-dose schedule, even when the same total dosage is given.

Other techniques to reduce drug toxicity and side effects range from simple physical measures to sophisticated biochemical approaches. For example, researchers have found that hair loss caused by chemotherapy can be reduced or eliminated by applying ice packs to a patient's head during a chemotherapy treatment. The ice constricts the blood vessels that feed hair follicles, effectively reducing the amount of the chemotherapeutic drugs that can reach them. To reduce nausea and vomiting some patients smoke marijuana: studies have shown that the active ingredient in marijuana, tetrahydrocannabinol, provides this relief.

In order to reduce toxicity throughout the whole body, in some kinds of cancers chemotherapy is perfused throughout the involved organ only, not through the entire bloodstream. In animal studies vitamin E and a substance called coenzyme Q have reduced the incidence of heart damage caused by Adriamycin. Still more subtle techniques involve "rescuing" normal tissue by giving the essential end product that normal cells require to reproduce at a time when the chemotherapeutic drug has irreversibly damaged the tumor. For example, leucovorin, an amino acid needed by cells to reproduce, is administered after the antimetabolite methotrexate has destroyed it

in tumor tissue. This technique makes it possible to administer larger doses of methotrexate with less damage to normal cells.

A positive attitude toward treatment, while not necessarily reducing physical discomfort, can make it more bearable. Richard Bloch suffered intensely with his chemotherapy, but he was grateful that it made him so sick. "If these drugs could make this big, strong body so violently ill, think what they would be doing to these weak little cancer cells" was how he expressed it. A positive attitude can even be developed through hypnotherapy with suggestions that side effects will be minimized.

Drug manipulations successfully control a small percentage of cancers with fewer side effects, but even their undeniable advances can't minimize the toxicity of chemotherapeutic drugs. Some have what is called a lethal dose factor of 10 to 25 percent, which means that 10 to 25 percent of patients die merely from taking the drug.

SIDE EFFECTS OF COMBINED CHEMOTHERAPY AND RADIOTHERAPY

Drug and radiation combinations are double-edged swords. We have seen that certain combinations are more successful than either modality used alone—but others are more toxic.

For example, several breast cancer studies have shown that when postoperative radiotherapy is given before chemotherapy, survival rates are lower than when chemotherapy is used alone. Cardiac irradiation, followed by a combination of cyclophosphamide and Adriamycin, will increase the heart damage done by Adriamycin. Under such conditions heart failure can result even when the total dose of Adriamycin is 450 mg/m^2 or less. A significant decrease in what is called the ejection fraction of the heart—a commonly used measure of heart function—was observed in patients who had more than 350 mg/m^2 of Adriamycin. This decrease was greater when radiation of more than 6,000 rads was used as well.

In one study, patients treated with 2,400 rads of radiation plus either of two different chemotherapeutic agents—methotrexate or ara-C—have shown some evidence of brain atrophy, as diagnosed by a CAT scan. Decreases in mental function were also observed, particularly a shortened attention span. These effects were attributed to radiation, since they were seen with the use of either drug and since

methotrexate rarely has negative effects on the central nervous system, except in those patients who have had previous brain irradiation.

SECONDARY CANCERS CAUSED BY TREATMENTS

Ironically both chemotherapy and radiation are actually carcinogenic, responsible for a growing number of secondary cancers that can appear from five to ten years after the therapy has been completed, a trend causing grave concern among cancer specialists.

It is well known that radiation is a potent carcinogen, with children at highest risk. Because they are growing rapidly, their cells are reproducing rapidly and are more sensitive to radiotherapy. In one study the incidence of secondary cancers in sites treated by radiotherapy was as high as 17 percent after twenty years. Mammography for the diagnosis of breast cancer has been implicated as the cause of a slight increase in its incidence, which led the American Cancer Society to reduce the number of mammograms suggested for women at low risk of getting breast cancer. Most physicians, particularly radiotherapists, maintain that the number of patients who will survive longer because mammography diagnosed their breast tumors early far outweighs the number of women who may contract breast cancer as a result.

Experiments have shown that under some circumstances radiation therapy directed at such primary tumors as cervical cancer, one type of breast and lung cancer, and two kinds of melanoma can cause an increase in metastases.

The chemotherapeutic drugs with the greatest cancer-causing potential are procarbazine, the alkylating agents, nitrosoureas, and cis-Platinum. Certain antibiotics have been implicated in causing a small number of cancers. Long-term treatment with cyclophosphamide has been associated with an increased incidence of bladder cancer. In one Swiss study of patients treated with chemotherapy, there was a 68 percent recurrence in those patients who had chemotherapy compared with only a 40 percent incidence in the control group after periods ranging from 3.5 to 5.5 years. In addition 63 percent of the treated group had died, while only 39 percent in the control group had died.

An increased incidence of acute myelocytic leukemia (AML) has been seen in patients getting adjuvant chemotherapy for breast and ovarian cancer. The leukemia has appeared after treatment with melphalan alone. It has also appeared in myeloma patients after chlorambucil was used.

Patients with Hodgkin's disease who are treated with chemotherapy have an increased risk of developing AML. This danger increases when chemotherapy and radiotherapy are combined. Actuarial analysis of one study of Hodgkin's disease patients done at Stanford University Medical Center suggested that combining chemotherapy and radiotherapy to treat Hodgkin's could increase the incidence of AML to as high as 10 percent in ten years. The incidence of AML in the normal population is less than 4 cases per 100,000 people, or .004 percent.

An NCI review showed an increased incidence of second tumors (3.8 times more than normal) in Hodgkin's patients treated with intensive radiotherapy. When combined intensive radiotherapy and chemotherapy were used, this incidence increased to twenty-three times more than normal. The MOPP program and radiotherapy are associated with an increased incidence of non-Hodgkin's lymphoma.

To what extent these treatments are responsible for secondary cancers is not fully clear. The problem is complicated for two reasons. First, in addition to being carcinogenic, both radiotherapy and such drugs as busulfan and cyclophosphamide cause cell changes that can be mistaken for malignancy. Additionally, researchers point out that patients who develop one cancer are often more susceptible to second, different cancers.

TRADITIONAL THERAPIES AND WILL TO LIVE

Another five or ten or fifteen or thirty years of life—even, at times, another six months—are worth much suffering and doubt. As one oncologist pointed out to me, "If a patient has Hodgkin's disease and probably will live only two months without any treatments, I will strongly advise him to have a therapy that gives him a nearly 70 percent chance to live for five years. He *might* then develop leukemia, but at least he's had those five years."

How much, though, do the pain, disfigurement, toxicity, and

depressing nature of the orthodox cancer therapies affect survival times? If the treatments guaranteed cures, the side effects would be easier to bear. But for the leading forms of cancer the mainstream therapies can ensure only slightly longer survival times. The combination of side effects and therapeutic uncertainty significantly affects will to live, and will to live plays some incalculable role in cancer survival. The cancer survivors I met who underwent traditional medical therapies all had a superior will to live: they had to fight a double battle, holding on to their passion for life and their belief in survival despite the rigors of their therapies.

You could say that Lynn Ringer is alive today because of the advances made by contemporary cancer medicine. But 90 percent of the women with her disease caught at her stage and treated in the same way do *not* survive. Surgery, radiation, and chemotherapy are not the only reasons she is alive and healthy today. What did Lynn Ringer bring to therapy that other ovarian cancer patients did not?

The friend who suggested that I interview Lynn had told me, "When you talk to Lynn, it's as if she just had cancer and got treated and got well," but despite the seeming casualness of Lynn's story, the factors of will and determination that I found in other survivors were there. Perhaps most important, when she heard her prognosis, she was determined to be among the 10 percent who survive her disease. I contrasted her attitude with that of Ellen Abbott, a patient of Dr. Ernest Rosenbaum and described in his fine book, *Living with Cancer*. Ellen, who also suffered from advanced ovarian cancer, said, "I assume that if you get cancer cells and they spread, the forces of nature are going to go on and you are going to die." Lynn Ringer is alive and cancer free today, a decade after her cancer was discovered. Ellen Abbott was dead within three years.

I heard the same determination from Iowa's Gary Hutchison, whose inoperable lymphoma was first discovered at the beginning of 1970. Gary had a classic open-close operation. When the surgeons saw the extent of the tumor attached to the back of his stomach with tentacles to his spleen and heart, they chose not to touch it, simply to sew Gary up again. They offered him radiation instead, which he took for a year and a half, when he discovered a lump in his neck. The cancer had spread throughout his lymph system, and so for two years Gary was bombarded with the chemotherapeutic drugs vincristine, Cytoxan, procarbazine, and the hormone prednisone. He has been cancer free since then. What were the chances of recovery

with that type of cancer, with that extensive a spread? According to Gary's physician, Dr. James Bell, they were something like 5 percent. Despite the side effects of his drugs, Gary said, "I had hope all the way through. I felt I *had* to make it." Mrs. Rodenberger, head of the Cured Cancer Club of Washington, D.C., was told when she had her hysterectomy in 1944 that she had one chance in a million to survive. She said to the doctors, "When you operate, I *know* I'll heal. I *will*," and she did.

A ONE-DIMENSIONAL APPROACH

The orthodox therapies are expressions of one limited and extremely primitive medical philosophy, no matter how sophisticated they seem. That philosophy is attack. Albert Rosenfeld, science editor of *Saturday Review*, describes the results of this philosophy in his book *Prolongevity*. "In the absence of better alternatives, we blast the afflicted with lethal doses of radiation, pickle them in large quantities of poisonous drugs, perform surgery that is complex, expensive, time-consuming, and often mutilative . . . a medical way of life that is intended only as an interim holding action pending the discovery of causes, cures, and preventive measures that will render obsolete these therapeutic extravaganzas."

Dr. James Isaacs, an assistant professor of surgery at Johns Hopkins from 1968 to 1978 and author of *Complementarity in Biology*, perhaps summed it up best. Isaacs stomped the stage at a New School lecture and bellowed, "I don't like to cut off women's breasts! I think it's barbaric!"

To keep pursuing only the conventional approaches may no longer offer significant gains. Is there a more positive and constructive viewpoint that might complement and supplement traditional treatments? Immunotherapy, the newest and still experimental cancer treatment modality, may be such an approach. Its basic premise is that the cancer patient's body possesses the most precisely focused mechanisms with which to destroy cancer: certain types of defensive blood cells that can recognize and destroy only cancer cells, ignoring healthy tissue completely. This same concept underlies all of the alternative cancer therapies. Because these treatments seek to repair and rebuild, they are not damaging. There is growing medical evidence that they are based on sound principles, and it is time to examine their promise for the future of cancer treatments.

3.

THE ALTERNATIVE OVERVIEW

Although the alternative approaches differ from each other in details, all emphasize that a truly healthy body will not develop cancer, that the body has the power to defend itself against not only bacterial and viral diseases, but against cancer as well.

Historically cancer has been seen as a great number of different diseases, its behavior and response to treatment depending on the tissue of origin and the type of cell from which it develops. Alternative theorists and therapists view all types of cancer basically as one disease, with roots in one condition, having one as yet undiscovered mechanism as the basic cause. Interestingly, one of the most highly respected cancer researchers in the world agrees with this principle. Dr. Lewis Thomas, former president, now chancellor, of Memorial Sloan-Kettering Cancer Center, said in 1975, "I think that cancer is going to turn out to be a single disease in the sense that some single and as yet unidentified pathological mechanism is involved in all varieties of cancer. Cancer may be launched by different mechanisms, but when we finally understand what lies at the base of such varied phenomena as chemical carcinogenesis, radiation and virus infection, the ultimate mechanism will probably be the same."

The most recent genetic research seems to offer further confirmation of this supposition. In August 1982 a group of researchers

headed by Dr. François G. Dautry of the Massachusetts Institute of Technology announced the discovery that abnormalities in a minute portion of just one gene out of thousands—known as the oncogene—transformed cells growing in the laboratory into a cancerlike state.

Alternative and traditional cancer workers differ in opinion about the meaning of the tumor. The twentieth-century medical view of cancer is that tumors or uncontrolled cell growth are synonymous with cancer. Orthodox therapists stalk the tumor, seeking to eradicate it. The alternative therapists see the tumor as a symptom of a deeper underlying metabolic disorder, the final step in a long process of physical deterioration; hence cancer treatments can never be completely successful as long as their only goal is to destroy the symptom. According to them cancers recur because the underlying disorder is never treated. Michael Schachter, M.D., is a Board-certified psychiatrist who, since the early 1970s, has been successfully treating some of his psychiatric patients with nutritional therapies—often referred to as orthomolecular psychiatry—and a holistic approach. Since 1975 a small percentage of his practice has been cancer patients who he treats with nutrition, Laetrile, and other nontraditional therapies. He noted, "A tumor is simply the symptom of the disease of cancer just as a runny nose is simply the symptom of a cold." The alternative methods treat the patient by attempting to change the chemistry of the body so it no longer possesses the elements cancer cells need to grow and to multiply.

Because the establishment approach views cancer cells and tumors as invaders to be eliminated or destroyed, surgery, radiation, and chemotherapy are all aggressive, potentially harmful treatments. In contrast, nearly all of the alternative therapies follow the Hippocratic injunction, "First, do no harm." These treatments are generally nontoxic: with very few exceptions they employ harmless natural or biological substances rather than artificially produced and poisonous chemicals. The goal of most of these therapies is to cleanse the body of what are seen as harmful substances and to stimulate its natural defenses. While a few of the therapies are extremely demanding—sometimes nearly as difficult and uncomfortable as chemotherapy or radiation—this stage of treatment is usually a short one, and the discomfort is never a sign of destruction but of rebuilding and healing. Patients appreciate this difference

and one of the rallying cries of the alternative movement is that quality of life is as important as length of life.

THE NUTRITIONAL APPROACH AND SCIENTIFIC CONFIRMATIONS

Special diets are central to most of the alternative therapies, and there is mounting scientific proof that there are indeed strong links between cancer and nutrition. In the spring of 1982 the National Academy of Sciences announced preliminary findings after two years of a three-year study of nutrition and cancer. This study, sponsored by the National Cancer Institute, reviewed decades of existing epidemiological, laboratory, and clinical research. In its conclusions, presented in a 445-page publication called *Diet, Nutrition, and Cancer*, the academy recommended that Americans make certain dietary changes that should cut the risk of cancer.

These included a reduction of fat intake from about 40 percent of total calories to 30 percent (one of the report's authors, T. Colin Campbell, a professor of nutritional biochemistry at Cornell University, believes fat intake should be about 20 percent of total calories, but the 30 percent figure was thought to be a more realistic goal); a reduction in salt-cured, pickled, and smoked foods; and an increase in vegetables, fruits, and whole grains.

A high fat intake is viewed as potentially carcinogenic because populations with a high level of dietary fat have a high incidence of such cancers as breast, colon, and prostate; eating less fat is associated with a lower incidence of these cancers. Scientists do not yet fully understand how fat may lead to cancer. One hypothesis is that fats produce more of certain bile acids, including some that are cancer promoters.

Fats to be reduced should include both saturated and polyunsaturated. Because of a suggested relationship between heart disease and a high intake of saturated fats, many people have been switching to polyunsaturates while not reducing total fat intake. There is some evidence that when dietary fat is greater than 20 percent of total calories, these polyunsaturates can promote tumor growth.

Pickled and smoked foods are implicated in esophageal and

stomach cancers, which have a higher incidence in those parts of China, Japan, and Iceland where these foods are eaten frequently. These cancers may be caused by chemicals used in the curing process: polycyclic aromatic hydrocarbons in smoke, or by nitrites, which the body turns into carcinogenic nitrosamines. Both of these compounds have been shown to cause cancer in laboratory animals and may cause cancer in humans.

Vegetables and fruits recommended are those high in vitamin C and carotene, which converts in the body to vitamin A. These foods include oranges, grapefruit, dark green leafy vegetables, carrots, winter squash, tomatoes, peppers, and those in the cabbage family: cauliflower, broccoli, brussels sprouts, and kale. Many laboratory experiments have shown that A and C inhibit the formation of cancer-causing chemicals—C, for example, prevents nitrites from turning into nitrosamines—and can reverse precancerous changes in cells. Clinical studies have confirmed that vitamin A reduces the incidence of such cancers as lung, breast, bladder, and skin, among others, even in population groups known to be at high risk of getting these cancers.

Scientists also believe that some as-yet-unidentified protective compounds may be present in these foods as well, and so the report specifically recommends whole foods rather than nutritional supplements.

Similar recommendations—mainly calling for reduction of fat intake and increased consumption of whole grains, fruits, and vegetables—were reached in 1977 by the Senate Select Committee on Nutrition and Human Needs and were issued in the publication *Dietary Goals for the United States*. Although much of the data used for both studies were the same, there are several notable differences between the two.

For example, in a widely publicized statement to the Senate committee in 1976, Dr. Gio B. Gori, then deputy director of NCI's Division of Cancer Cause and Prevention (he is currently editor of the three-and-a-half-year-old medical journal, *Nutrition and Cancer*), concluded that according to existing scientific evidence "... diet is an important factor in the causation of various forms of cancer, and that it is correlated to more than half of all cancers in women and at least one-third of all cancers in men." The 1982 report shies away from such a definitive statement of cause and effect.

Also there is considerable experimental and epidemiological evidence that dietary fiber plays a strong role in reducing incidence of certain cancers, particularly colon cancer. *Dietary Goals* specifically recommended an increase in fiber intake. However the 1982 report does not, concluding that some studies dispute fiber's protective role and that the strongest evidence indicates that specific components of fiber are valuable rather than fiber itself. These elements have not yet been isolated, just as the protective factors in fruits and vegetables have not yet been defined. Yet the academy has not suggested increased intake of fiber as it recommended increases in fruits and vegetables.

Caloric restriction has also been shown to be a cancer preventive. As early as 1914 it was shown that underfeeding could slow down or stop the growth of tumors in experimental animals. In the 1970s researchers at New York's Sloan-Kettering Institute found that reducing calories by one third in a strain of mice bred to produce breast tumors completely prevented development of these tumors. Life insurance records show that as weight rises so does cancer incidence, with some studies suggesting that the cancers most likely to increase are those of the intestinal tract, liver, gallbladder, and genitourinary tract. Other data indicate that cancer of the uterus occurs more frequently in overweight women and colon cancer more frequently in overweight men than in those whose weight is normal. Studies of breast cancer patients show that the two strongest indicators of long survival time are a high number of uninvolved lymph nodes and low body weight. *Dietary Goals* mentions obesity as a cancer risk factor; however academy scientists in 1982 did not feel the facts were strong enough to warrant recommendations to reduce total caloric intake.

Neither study suggested changes in intake of other nutritional elements for which some evidence of a cancer link exists. Vitamin E, for example, has been thought to play a role in cancer prevention. As an antioxidant it can help prevent the body's formation of cancer-causing molecules called free radicals. There is also evidence that the mineral selenium may have some protective effect. Epidemiological studies show that there is a lower incidence of breast and colon cancer in those parts of the world where there is a high amount of selenium in the soil. Vitamin E and selenium are believed to amplify each other. However *Diet, Nutrition, and Cancer* reported that data

were not substantial enough, particularly since selenium is toxic in high doses.

Nearly all of the alternative therapies emphasize a low intake of animal protein. However animal experiments show that the amount of protein in the diet has a wide range of effects. Although amino acid deficiencies have been shown to inhibit the formation of certain tumors, low protein intake has been shown to increase the incidence of others.

To those familiar with alternative cancer therapies neither study's findings are a surprise, offering confirmation of positions long held by proponents of nontoxic cancer therapies. Some of the epidemiological studies on which the reports are based are classic proofs of the contention that diet plays a role in cancer. One example is the 1969 study that examines a change in types of cancer contracted by Japanese who move to America. In Japan there is a low incidence of colon and breast cancer and a high incidence of stomach cancer. Within two or three generations, however, Japanese who immigrate to the United States develop the same pattern of cancer incidence as Americans: a high rate of colon and breast cancer and a low rate of stomach cancer. This change is attributed to a lower intake of cured or smoked foods and a higher intake of fats.

Another well-known study shows that California Seventh-Day Adventists, who eat limited amounts of animal protein and high quantities of whole fresh foods, have an overall cancer death rate about one half of the cancer death rate in that state.

Also high doses of vitamin A in various forms have always been a vital part of the nutritional therapies. Intriguing medical evidence that vitamin A could help to slow down the growth of tumors was first demonstrated in the 1920s. Additionally there were a great number of promising nutritional animal studies done during the 1920s through the 1940s. Certain foods and vitamins were found to protect laboratory animals against the action of carcinogens. For example, the addition of yeast to the diet of experimental rats who also were fed a potent carcinogen not only delayed the appearance of liver cancer, but improved the overall health of the animals even after liver cancer appeared. Other dietary manipulations delayed the onset of breast tumors in laboratory animals bred to produce them.

None of these studies and their conclusions were ever refuted,

but most were neglected when antibiotics were discovered. The dramatic success of penicillin led drug company researchers to concentrate on finding substances that would attack tumors as antibiotics attacked bacterial invaders, leading cancer research inexorably away from nutrition and into chemotherapy.

DIET AS TREATMENT

All the medical evidence to date has confirmed that there are nutritional elements that can help to prevent cancer. Alternative therapists, however, maintain that these and additional nutritional manipulations can play a role in the *treatment* of cancer. This concept is not new and has been advanced by many respected physicians, particularly early in this century. For example, in 1915 Lucius Duncan Bulkley, senior physician at the New York Skin and Cancer Hospital, reported many case histories of cancer patients he had treated with a vegetarian diet, saying, "Some of the more severe ones showed very markedly the benefit of dietetic . . . measures." In 1916 he emphasized that dietary treatment, if continued for a long time, gave satisfactory results, writing, ". . . that this latter can happen is abundantly shown by occasional cases of unquestioned cancer known to have entirely disappeared for many years, and sometimes reported, and also by my own experience during the last 30 or 40 years . . ."

Despite such anecdotal reports it is here that the distance between alternative and accepted medical thought is greatest. Most traditional cancer researchers believe that once a cancer exists, dietary changes cannot reverse its course. The American Cancer Society holds conferences devoted to nutrition, but these primarily deal with ways to increase the caloric intake of cancer patients. Anorexia, or loss of appetite, is one of the disease's deadliest side effects. Surgery of the intestinal tract, radiation, and chemotherapy also cause eating difficulties. The society's dietary suggestions are in no way intended to slow the growth of cancer. Unlike the alternative nutritional therapies, these emphasize high animal protein and fats, high sugar, and processed foods such as dried beef and deviled ham.

There are rare representatives of traditional cancer medicine who see treatment potential in nutrition. One of these is Dr. Stanley J. Dudrick, chairman of surgery at the University of Texas in Hous-

ton and a pioneer in feeding cancer patients intravenously with a method called Total Parenteral Nutrition (or TPN). Dudrick is light years away from alternative therapists. Yet he said at a 1969 American Cancer Society conference, "What we hope . . . is that someday, from our increased knowledge not only of nutrients, but also of individual chemicals, that we will be able to selectively feed the host and simultaneously starve the tumor. To us, this would be the ultimate in intravenous therapy."

Another is Dr. Gio B. Gori, who echoed Dudrick's vision in his 1976 statement to the Senate Select Committee on Nutrition and Human Needs: "Some recent experiments have suggested the intriguing possibility of using nutrition as a direct form of cancer therapy. The host and the tumor compete for the same pool of available nutrients present in the host. It is well known that the nutritional requirements of many tumors are substantially different from those of the host, and it appears that it may be possible to adjust available nutrients . . . so that the host may be fed and the tumor may be starved."

To date the National Cancer Institute has devoted only a minuscule portion of its budget to nutritional research. In 1981, out of nearly \$1 billion, only \$28.6 million, or less than 3 percent, was earmarked for nutritional studies, and most of that was for prevention rather than treatment.

However as evidence mounts, acceptance of nutrition's role in cancer will grow. Nutritional research will undoubtedly increase dramatically when the second part of the academy study is completed in spring 1983 and indicates in which areas more research is needed.

4.

THE MAJOR NUTRITIONAL THERAPIES

MAX GERSON, M.D.: DIET AND DETOXIFICATION

In August 1974 Jaquie Davison, then thirty-six years old, first discovered the lumps in her groin, near her diaphragm, in her left forearm, and on the inside of her left calf. She was certain that the lumps were tumors and that cancer had spread throughout her body. She was terrified. She remembered a dream she had had a month earlier, in which she saw her dead mother. In her dream they had hugged each other, then spun weightlessly through Jaquie's Ramona, California, house, then rose through the house and into the sky. In the dream Jaquie felt overwhelming joy and release. Now she felt that her mother had been preparing her for death.

When she told her chiropractor husband what she had found and what she suspected, he urged her to see a doctor; her friends and family pressed her to get a biopsy diagnosis as soon as possible. But Jaquie was terrified of surgery and refused. Once she was almost persuaded to have a biopsy, but then remembered a recurring dream in which she met a woman who looked exactly like her but who had a huge tumor on the right side of her groin. In the dream Jaquie

would ask the woman, "Was that always that huge?" and the woman would answer, "No, it grew very rapidly after I had surgery."

Jaquie's fear of surgery—even for biopsy—and of other orthodox treatments for cancer seems extreme. But it grew out of her experience: every cancer patient she knew who had undergone conventional therapy had died. She was determined never to have surgery, radiation, or chemotherapy.

Instead she read everything she could find about natural cures for cancer and from August 1974—still undiagnosed by anyone but herself—she tried and abandoned many different approaches, including fasting, raw carrot juice, vitamins, special teas, and wheat-grass juice. She even saw a bloodless psychic surgeon from the Philippines. She went to a Laetrile clinic in Mexico and had a urinalysis that was supposed to detect malignancies. When the test results proved negative, Jaquie didn't believe them. She was so convinced of her illness that she felt if the diagnosis were incorrect, there was no way the treatment could help her. She wrote to all of her friends and told them she had terminal cancer and asked for their prayers. Her mailbox overflowed with get well cards, letters, and prayers.

But Jaquie's condition continued to deteriorate. New lumps kept appearing on her body. She was bloated. She had unbearable migraines and she felt pressure in her neck near her jugular vein. She could no longer digest her food. Her periods were irregular and scanty and her skin color was gray. Her salivary glands stopped working. She went to the wedding of one of her daughters in May 1975 and in between her heartfelt prayers to God to let her live she was convinced that she was going to die. She began sewing herself a dress in which to be buried.

In July 1975 her husband brought her a cassette tape by Charlotte Gerson Straus, daughter of the late German physician Max Gerson, who had devised a comprehensive nutritional therapy for cancer, and a book called *Has Dr. Max Gerson a True Cancer Cure?*, written by a journalist who had set out intending to expose Gerson as a fraud but who finished with enormous respect for the man and his work.

Jaquie was excited by the tape and by the book. After feeling for so long that death was inevitable, she began to believe that there might be hope. After five days on the Gerson therapy Jaquie felt that

her will to live had returned, that her body had made a turn from death to life. She felt certain that she was going to recover.

In September 1975 she finally decided that she wanted biopsy evidence that she did indeed have cancer and that the Gerson therapy was healing her. She found a surgeon in La Jolla and told him that she was following the Gerson therapy and that because her body was so free of toxic materials, she could not tolerate general anesthesia. He agreed to perform a biopsy using only local anesthesia.

When Jaquie returned to get the results, he told her, "I'm not going to tell you anything you don't already know. The laboratory reports malignant melanoma." He also told her that the cells from the tumor he had removed were dead. "Somehow the blood supply was cut off to the tumor, causing the cells to hemorrhage and die."

Jaquie was jubilant. The treatment was working, just as Charlotte Gerson Straus had said it would.

When I called that surgeon in 1980 to confirm what Jaquie had told me and what she had written in her book, *Cancer Winner*, he remembered her, confirmed what she described, and asked that I not use his name.

"I would doubt that she's still alive," he said. I assured him that I had just spoken to her and that she was actively promoting the Gerson therapy—speaking at conventions and distributing petitions in support of the treatment.

"I'm quite surprised to hear that she's still around," he said.

"Why is that?"

"Because it's been so many years."

"In your experience, then, you wouldn't expect a melanoma patient in her condition to live so long with conventional treatment?"

"With *any* treatment," he said firmly. "They just die."

THE GERSON THERAPY

The therapy that Jaquie followed had been devised in the 1920s by the German physician Max Gerson, who died in 1959. One of the most comprehensive and influential of the nontoxic treatments for cancer, it is a wellspring for many alternative methods. During his lifetime Gerson's ideas were vigorously rejected by the orthodox medical establishment and his therapy is still on the American

Cancer Society's Unproven Methods list. Today, however, there is a growing body of scientific confirmation that some of his key concepts, including the use of vitamin A—which his treatment provided in liver and as carotene in massive amounts of carrot juice—enemas, and balancing sodium and potassium, are valuable tools in preventing cancer. There have been studies showing that parts of his therapy are effective in treating cancer. But to date there have been no scientific studies of the entire Gerson therapy in animals or humans.

The Gerson program is far from simple to follow. One Gerson patient said of it, "What I didn't know when I began was that the Gerson therapy is not just a diet—it's a total 'life-style,' a way of living that changes *everything*." Although the treatment is often referred to as the Gerson diet, diet is only one part of a holistic therapy that attempts to rebuild total health by changing the cancer patient's internal state so cancer cells no longer have an environment in which to flourish.

As Gerson explains in *A Cancer Therapy: Results of 50 Cases*, "What is essential is not the growth itself or the visible symptoms; it is the damage of the whole metabolism, including the loss of defense, immunity and healing power. It cannot be explained with nor recognized by one or another cause alone."

According to Gerson and other nutritional physicians the breakdown that leads to cancer begins in the soil, which has been depleted by artificial fertilizers. Studies have shown that food grown on chemically fertilized soil has a much lower mineral content than food grown on soil fertilized by compost. In her book *The Diet Revolution*, Jill Wordsworth points out that those populations who seem to enjoy perfect health—the Hunzas, the natives of Tristan da Cunha, and, until they began eating refined foods, the Eskimos—all return animal and vegetable residue to the soil. This supports the bacteria, fungi, and earthworms, which are vital to healthy plants in several ways. This soil population protects plants from disease; bacteria break down insoluble mineral salts slowly to make them available to plants; fungi help plants to absorb more nutrients; certain fungi grow inside plant roots, stimulating plant growth; earthworms aerate the soil and release minerals five or six feet below the surface; the dead bodies of these organisms, particularly earthworms, add nitrogen to the soil.

However these essential organisms are all destroyed by artificial fertilizers, which may initially increase plant growth, but result in plants that are weaker and more prone to disease. Their cell walls are thin, they have a high water content, diluting their minerals even further. Eventually as the soil population is completely destroyed, the amount of humus is reduced; the soil can't retain water, and rich topsoil is washed away by wind and rain. More fertilizer and pesticides are needed to keep up growth rates and to protect weak plants.

The destructive process continues, Gerson says, in the packaging of food: "... the food substances are damaged as they are refined, bottled, bleached, powdered, frozen, smoked, salted, canned, and colored with artificial coloring."

It is this weakened and adulterated food that leads to systemic deterioration. "... Cancer," says Gerson, "is not a single cellular problem; it is an accumulation of numerous damaging factors combined in deteriorating the whole metabolism, after the liver has been progressively impaired in its functions."

Gerson viewed the liver as critical, because of its vital metabolic role. He had observed that impaired liver function always predates the appearance of cancer. In this view he is supported by Dr. Jesse Greenstein, former chief of the NCI's biochemistry laboratory. In his 1954 book, *Biochemistry of Cancer*, Greenstein stated, "... there seems to be little doubt that hepatic insufficiency is a concomitant phenomenon with cancer . . ."

Recent research connects alcohol intake, known to damage the liver, with increased cancer incidence. A study of more than four thousand women showed a one and a half to two times greater rate of breast cancer in women who drank than in those who never drank. Drinking was also associated with an increased incidence of colon cancers.

To restore a healthy metabolism the Gerson therapy strives to eliminate toxins, including the end products of poorly digested proteins and fat; to restore a normal sodium/potassium balance, as cancer patients retain excessive sodium within the cells and have too little potassium; and, because the most malignant cancer cells tend to live without oxygen, or by fermentation, to enable every cell of the body to use more oxygen. A healthy liver is vital to these goals since the liver's functions include cleansing the blood of toxins, reacti-

vating the enzymes that help cells use oxygen in respiration, and helping to prepare the pancreatic enzymes that digest proteins, including those that make up cancer cells.

According to Gerson once the body is detoxified, the oxidizing and protein digesting (called proteolytic) enzyme systems are reactivated and turn against the cancer. The oxidizing enzymes act as catalysts that help oxygen in the cells combine with nutrients. When this process of oxidation takes place, it is less likely that fermentation will occur. The proteolytic enzymes help cancer patients digest and assimilate their food. By correcting general conditions within the body, the local symptom can be made to disappear. Gerson's main therapeutic tools were coffee enemas, a special diet, and several supplements.

The coffee enemas are one of the most important aspects of the Gerson therapy and the most frequently misunderstood. Although Europeans use enemas for internal cleansing, most Americans regard them with distaste. Coffee enemas sound even more peculiar. But the rationale for the coffee enema seems sound. German experiments in the 1920s had demonstrated that caffeine taken rectally passes through the portal vein into the liver, where it stimulates bile flow and opens the bile ducts so bile can flow more freely. Increased bile flow is important in ridding the body of toxins as, in addition to emulsifying fats so they can be more easily digested, bile also contains many of the waste products that have been detoxified by the liver. These are carried by the bile into the intestines and out of the body.

Coffee enemas are significant in the therapy for other reasons as well. In order to detoxify his patients Gerson felt he had to eliminate all of their drugs, including painkillers. Patients reported that the coffee enemas relieved pain. Also, as Gerson explained it, when large tumor masses began to break down, cancer patients' bodies would be overwhelmed by dead tumor material, potent toxins, which, if not cleaned out of the body fast enough, would lead to death. Some patients took coffee enemas as often as every two hours to help clean out these toxins. During Jaquie Davison's healing she became extremely sensitive to pollutants in the air. She would often feel as though she were losing consciousness; sometimes she would hallucinate. When she felt herself slipping, she believed it was her body signaling her that she needed to detoxify more. Sometimes she

would go without sleep for days because she had to take enemas so frequently.

To further detoxify, patients take castor oil treatments, consisting of castor oil taken orally and by enema every other day.

The diet itself consists of oatmeal with fruit for breakfast; salad, vegetable soup, and cooked vegetables, including baked potato, for both lunch and dinner. To flood the body with oxidizing enzymes cancer patients drink an eight-ounce glass of either carrot, green leaf, or raw calves' liver juice every hour. Patients are encouraged to snack on fresh fruit and raw vegetables. Animal protein is kept at a minimum. According to Gerson this frees the protein-dissolving enzymes to digest cancer tissue rather than food. Although it is generally accepted that enzymes taken orally are utilized and broken down in the digestive tract, there is evidence that at least some of these enzymes can be absorbed intact into the bloodstream in the small intestine, making it possible for them to work at a tumor site. This and other evidence that enzymes taken by mouth could affect tumor cells will be fully discussed in the Laetrile chapter.

Some animal protein is available in the daily pound and a half of juiced raw liver, and if patients do well, more protein is added in the form of pot cheese, nonfat yogurt, or salt-free buttermilk.

The diet is completely salt free in order to help restore the proper sodium/potassium balance. At first the diet was completely fat free, but Gerson realized that patients needed some fats and added two tablespoons a day of linseed oil: the only oil that would not spur tumor growth. Although not known during Gerson's lifetime, there is now scientific evidence that linseed oil is rich in a type of essential fatty acid that reduces blood viscosity. Low blood viscosity is associated with a reduced tendency to metastases. Moreover, in order to add no more toxins to the body, no additives, preservatives, or colorants are permitted and all vegetables and fruits must be organically grown. All foods must be fresh; no canned or bottled foods are allowed, and tobacco, alcohol, and caffeine taken orally are prohibited.

Normally there is a high concentration of potassium inside cells and high sodium levels outside of cells. But as cells age, and in the degenerative diseases, the amount of sodium inside cells rises and potassium levels go down. In addition to the large supply of potassium in the fresh juices, to restore potassium Gerson gave his patients a potassium compound. To further damage cancer cells he

gave thyroid and iodine in the form of half strength Lugol's solution. These, he theorized, were absorbed by the cancer mass, along with potassium and the oxidizing enzymes. This combination made it impossible for cancer cells to ferment and they would die. To help restore liver function patients received crude liver extract injections along with vitamin B₁₂. Gerson found niacin's action helpful to dilate capillaries and help oxidation. Patients also take betaine hydrochloride and the enzyme pancreatin to help them digest food. To fully restore the liver generally takes about a year and a half, during which time patients must have their blood monitored by a physician so the supplements and diet can be adjusted.

It is an extremely demanding therapy, not to be undertaken without medical supervision or the intention to persevere. In his book Gerson warns, "It is advisable not to start the treatment, if for any reason strict adherence to it is not possible." Each element is important and all are interrelated. If every aspect is not used, the therapy will be ineffective and patients may injure themselves.

The most demanding aspect of the therapy is the juices, which must be freshly made every hour so the oxidizing enzymes will not be destroyed by light and air. Standard home juicers are not recommended for Gerson patients. The electric charge produced by their centrifugal action destroys enzymes and they mix air into the juices, hastening their decomposition. Gerson patients are encouraged to buy a Norwalk juicer, which ranges in price from \$795 to \$995. This is expensive when compared with other home juicers, most of which retail for under \$200, but the Norwalk is more than twice the size of standard home juicing machines, with a powerful one-third or one-half horsepower motor. It is a two-part machine, with a rotating blade on one side and a press on the other. Patients or their helpers feed the fruits, vegetables, or raw liver into the feeder tube, then put the resulting pulp onto a cloth, a small amount at a time. The cloth is folded and placed under the press, which squeezes out the juice. This folding and pressing is repeated until all the pulp has been squeezed dry.

HEALING CRISES AND THE NEED FOR HELP

The materials that go into the juices, particularly the liver, must be purchased fresh every day, or every other day. Preparing the vegeta-

ble meals also takes energy, and advanced cancer patients rarely have that. Most important, during the Gerson therapy—and nearly every nutritional treatment—each patient goes through a number of what Gerson called healing crises or flare-ups, as toxins are flushed out of the tissues and through the bloodstream. During these flare-ups patients have flulike symptoms: they are weak, depressed, may be feverish, nauseated, and may vomit. There is often a great deal of intestinal gas and odorous stool. Flare-ups are usually less severe than chemotherapy's side effects, come at predictable intervals during the healing period, and ordinarily last only two or three days.

Patients usually recover from these bouts feeling better than they had before, but during those times another aspect of the Gerson therapy becomes crucial to the patient's life: the participation of family or close friends. Gerson himself writes, "The mental condition of the patient and psychological cooperation of the family and the environment play important roles in the restoration of the body. Every patient needs faith, love, hope and encouragement." One patient told me, "If you don't have help, you're not on the Gerson therapy. You're doing something else."

Everyone I met for whom the Gerson therapy was successful had family or friends well organized in a daily routine in which each member helped. Jaquie Davison's husband, Ron, supported her decisions and helped hold the house together during her many grueling crises. One of her daughters, Ramona, stayed home from school for months to help her mother with the therapy, including staying awake with Jaquie through the many nights when she could not sleep.

One malignant melanoma patient from San Diego who I'll call Ed Morgan, described his day: "I get up at five thirty in the morning. The first thing I do when I get up, I make a liver and carrot juice. That takes me up to about six o'clock. Then while I go in and take a coffee enema, my two kids get up because they have to go to school. My daughter makes the green juice. By the time the coffee enema is done, forty-five minutes later, I have the green juice. Then I help my daughter clean up and I shave and get ready and my son makes the carrot and apple juice. That I put in a Thermos and I take a quart to work. The enzymes will live in the Thermos for two or three hours, but the green and liver juices have to be drunk immediately. So

about eleven thirty I come home, make a fresh liver juice and lunch—I'd be home alone or my wife would be home and make lunch some two or three days of the week—take my coffee enema, fill another quart full of carrot juice, and go back to work. After work I play golf—nine holes—come home, have a double liver and maybe a green juice, dinner, and take another coffee enema at night."

When surgery failed to check Ed's melanoma, he began the Gerson therapy. His progress was rapid and striking. After following the Gerson program for only two and a half months his physician at Balboa Naval Hospital wrote on his medical report, "Appears *much younger* and in better health than last visit. Excellent quality of survival. Patient feels Max Gerson cancer diet and Rx [treatment] has been of great benefit. His general excellent health appears to be a manifestation of same."

Sadly, Ed became cocky. He had a little plastic badge made up for himself that read "Gerson Immortal." He felt that he could cheat on the therapy a little bit and go back to it if he showed any signs of becoming sick again. Although other Gerson patients may deviate from the therapy once in a while, Ed's attitude of invincibility led him to be too casual. More seriously, Ed was suddenly faced with a family conflict that he could not resolve. He had been a heavy drinker before beginning the therapy, and began drinking again, slipping off the program entirely. Late in 1980 he had a relapse and died.

Other patients continued their fight despite obstacles, finding help wherever they could. In November 1978 I talked to Mrs. Rosmond Ray, who had been treated by Gerson himself in 1953, when she was thirty-nine, for a mucinous carcinoma of her descending colon. Her doctor had told her that her cancer would kill her if she didn't have a colostomy, but she refused that surgery and went to see Gerson instead.

Now a housewife in Modesto, California, and at sixty-eight in excellent health, Mrs. Ray told me that while she was on the therapy, she went back to her job as director of nurses at a California hospital. At first, like Ed, she took her juices with her in a Thermos, but the hospital staff became interested in what she was doing and the cook finally said, "Bring your juicer down here. We'll make your juice so you can have it fresh."

"Sometimes," Mrs. Ray told me, "I would be scrubbed in sur-

gery, and on the hour, when I should have the juice, I'd hear a little tap at the door. I'd wrap up my arms and hands in sterile towels, go to the door, and it would open a crack and they'd stick a straw through and I'd drink the juice, and get back to the job."

LA GLORIA

Since 1977 the Gerson therapy has been offered at the Clinica La Gloria, affiliated with a hospital in Mexico. Charlotte Gerson Straus, the motivating force behind the continuation of the therapy, acts as a consultant to the doctors on its application. The clinic treats patients suffering from all degenerative diseases.

La Gloria is a complex of two-story, long, narrow white buildings located in the hills six miles south of Tijuana. On a fairly deserted stretch of road, it seems more remote than it actually is, an atmosphere encouraged by Charlotte, who wants patients to see it as a retreat. There are no telephones in the small, clean patients' rooms and the outside world seems very far away. There are floor nurses, but for private or bed care, patients are urged to bring a friend or relative to help them when they go through flare-ups and to learn to apply the therapy when patients return home.

Ambulatory patients meet in a central dining room for breakfast, lunch, and dinner. Conversation is a mixture of fear and hope and, frequently, complaints about the stringent dietary regimen. Patients are free to do whatever they want throughout the day; however there is little activity in these lonely hills and patients must be in their rooms for their hourly juices and to take the necessary enemas. Patients are encouraged to come for a minimum of two weeks and pay \$205 a day. Fees include the room, physician's care, medication, food, juices, and room service by smiling, white-coated Mexican women. Accompanying guests pay \$30 a day.

Those patients who do well and no longer need the intensive care offered by La Gloria but who still desire medical support can transfer to an intermediate care facility called Del Sol. For cancer patients who cannot stay at a Gerson center, there is an inpatient treatment center near San Diego called Sweetwater Terrace Retreat. For \$1,600 a month, patients with degenerative diseases can be treated with the entire Gerson therapy. The retreat also serves as a halfway house for Gerson patients who have spent time at

La Gloria, helping to prepare them to follow the therapy at home.

While most alternative therapists speak cautiously of controlling or managing cancer, Charlotte Gerson Straus speaks confidently of cure. However, she cannot provide survival statistics because she does not have the staff to monitor patients' conditions once they leave La Gloria. It is also impossible for her to know how carefully patients continue to follow the therapy at home. She explains the therapy's failures by saying that those patients had gone off the therapy, or that they did not adhere to it strictly enough. Sometimes this was true, but sometimes patients went off the therapy because they were no longer seeing results: their cancers were continuing to grow, or they were too sick to continue.

However of all the alternative methods the Gerson therapy does account for an impressive number of long-term cancer survivors, all of whom had well-documented disease.

The therapy that is administered at the centers is almost exactly the same as the one Gerson detailed in *A Cancer Therapy*. No one wants to tamper with the carefully balanced program, certainly not Charlotte, who is Teutonically single-minded in her support of her father's work and whose conversation is studded with "I refer you to my father's book," and "If you will take the time to study my father's book . . ." At La Gloria *A Cancer Therapy* is as ubiquitous as the Gideon Bible in a motel. Well-thumbed copies of the fat blue-and-yellow-covered paperback are in every patient's room.

In addition to Jaquie Davison there are a few patients who have recovered from very advanced cancers with no help other than the book. One of them, Earl Taylor of Cairo, Illinois, had prostate cancer that hormones were unable to stop. Taylor was seventy fifteen years ago when his doctor advised him to get his affairs in order. Taylor had read about the Gerson therapy in *Prevention* magazine and decided to try it. He had only a sixth-grade education and found the book impossible to understand, so he called Charlotte, who told him to follow the treatment outlined in the book and never mind about the theory. On his own, with no help, Taylor stuck to the treatment. In pain, exhausted, sometimes he would be overwhelmed by the desire to give up and simply stay in bed. But he thought, If I do that, I'll just die. So he forced himself to follow the therapy. In a month his doctor could find no trace of the large mass in Taylor's groin. Now eighty-five years old, Taylor is still cancer free.

GERSON'S THEORIES

Max Gerson developed his therapy to improve his own health. He had received an orthodox medical training, graduating from the University of Freiburg in 1907. He began his medical career as a specialist in nerve and other internal diseases. But he was plagued by recurrent migraines that his own doctors were unable to cure. Gerson tried many therapies in his search for relief, finally turning to a fresh fruit and vegetable diet he had read about. Following this diet stopped his headaches. If he returned to normal eating, his headaches began again. When he tried this diet on other migraine sufferers, their headaches stopped, too. One of his patients was a young man who also suffered from lupus vulgaris, a form of skin tuberculosis then considered incurable. Not only did this patient's headaches vanish but his lupus healed also. Gerson treated other lupus patients, who also recovered.

In 1924, as a result of his success with this disease, he was called on by Ferdinand Sauerbruch, M.D., a leading German and European authority on lung tuberculosis. Gerson worked with Sauerbruch in Munich for three years where he treated 450 lupus patients with his therapy; 446 of them recovered. Sauerbruch praised Gerson in his book, *Master Surgeon*, but when Gerson began to have success treating patients with lung tuberculosis, Sauerbruch's specialty, the doctor withdrew his support.

One of Gerson's patients was Albert Schweitzer's wife, whom he cured of apparently terminal tuberculosis. After Gerson saved her life, Dr. Schweitzer wrote of him, "I see in him one of the most eminent geniuses in the history of medicine." When Schweitzer was in his seventies, Gerson controlled his diabetes so well that Schweitzer was able to stop taking insulin.

As Gerson tried the diet on other chronic diseases, he found it equally successful for arthritis, heart disease, chronic sinusitis, ulcers, colitis, high blood pressure, and psoriasis. Despite this success treating other degenerative diseases, Gerson had never attempted to cure cancer. He knew almost nothing about the disease. In 1928 a woman with inoperable cancer of the bile duct, with two metastases to the liver, accompanied by jaundice and high fever, insisted that he treat her. He told her, "Sorry. I can do nothing for you. I don't know how to treat cancer. I have not seen results, especially in such

an advanced case where there is no longer the possibility of operation."

The woman persisted, telling him that she had seen his good results with arthritis and tuberculosis. Gerson said, "Look, because of my tuberculosis treatment, physicians are opposed to me. Therefore, I'd like not to treat you." The woman then offered him a signed statement saying she would not hold him responsible for the outcome of the treatment and that he treated her only at her insistence.

Gerson then agreed to try, and gave her the diet he had used for tuberculosis. In six months he wrote, "...she was up and around and in the best condition." She sent him two more patients, both with inoperable, metastasized stomach cancers, both of whom he cured. When one of these patients died two years later after an accidental fall, an autopsy showed her body to be cancer free.

For years Gerson was not called on to use his therapy for cancer. Then in 1933 the rise of Hitler forced him to leave Germany. In Vienna between 1933 and 1934 he tried his treatment on six cases, all of whom died. He was shocked by these deaths but the patients were at a sanatorium where dietary treatments were poorly carried out and he attributed the failures to that. In Paris between 1935 and 1936 he treated seven cases, out of which he had three successes.

When Gerson came to America in November 1936, he could not forget the cancer patients he had cured in Europe, and thought, "It must be possible, it would be a crime not to do it." He got his New York license on January 27, 1938, and began to treat patients in his clinic. Ninety percent of his patients were near death. He writes, "...the knife of the AMA was at my throat and on my back I had only terminal cases. If I had not saved them, my clinic would have been a death house. Some of the cases were brought on stretchers. They couldn't walk. They could no longer eat. It was very, very difficult. So, I really had to work out a treatment that could help these far advanced cases."

THE LONG-TERM SURVIVORS

Using only the diet, detoxification, and the vitamin and mineral supplements, Gerson cured a percentage of these patients who had been told by their physicians that nothing more could be done for them. In *A Cancer Therapy* he includes detailed case histories, with

X-ray photographs, of fifty of these patients, many of them followed for years after they received treatment. I talked to some of them nearly thirty years after they saw him.

One of these survivors is Mrs. E. Maggs, of Rochester, New York, case #26 in Gerson's book. Mrs. Maggs first saw Gerson on September 19, 1949. She had had a growth of the right parotid gland, diagnosed by the Rochester Hospital as "Malignant mixed tumor of the parotid with marked lymphoid stroma." That growth was removed at the hospital in March 1946. In March 1948 she felt another tumor mass in the same place and another one on the left side. Her family doctor suggested another operation, but she refused and went to see Gerson, who had successfully treated her husband for bladder cancer. As Gerson describes her condition in *A Cancer Therapy*, her right parotid gland was the size of a walnut and the left parotid was the size of a hazelnut. There were also other swollen glands on the right side. After about four weeks of treatment the tumor of the right parotid gland was smaller and softer; the left tumor was still hard.

"After four months, both tumors were much reduced, no glands palpable.... After one year . . . from the tumor masses only two small hard scars were left," Gerson writes.

When Gerson last saw her in 1957, Mrs. Maggs was sixty-six years old. In 1978 I dialed her Rochester number with some trepidation, wondering what I would find. She would be eighty-seven or eighty-eight now, if she was still alive.

The phone rang twice and a perky but unmistakably old voice answered. I identified myself and asked, "Is this the same Mrs. Maggs who was treated for cancer by Dr. Max Gerson?"

"Well, it surely is," the voice said.

"I'm calling at the suggestion of Charlotte Gerson Straus," I began, and explained that I wanted to interview her for a book I was writing. Would she be willing to talk to me and was this a good time?

"Yes, I would *love* to," Mrs. Maggs said emphatically. "Why, just today at lunch my daughter and I were talking about Dr. Gerson. There was an article in the Sunday paper about nutrition . . . we were saying, 'Why didn't they listen to Dr. Gerson? Why did no one listen to him?'"

I asked Mrs. Maggs how she was feeling, and she said that at the moment she was going through a bout of arthritis, but that otherwise she felt just fine.

"You sound really chipper and spry," I agreed. "May I ask how old you are now?"

"I'm eighty-seven," she told me proudly. "And my voice sounds real good, but I can't do things the way I used to."

I confirmed with Mrs. Maggs that Dr. Gerson's description of her case was accurate. I asked her how she felt after her treatments.

"When Dr. Gerson discharged me," she told me, "I didn't have an ache or a pain in my body. Not one." But over the years she had gone off the program. "It was a strenuous diet."

"Did you need help with it or were you able to do it yourself?"

"Oh, I had help. My husband and I—we helped each other at first, and when he was gone, my sister helped and my daughter, and I had someone come in to do the work, and *she* helped. I had so much support."

"Would you think of trying the diet now, for your arthritic condition?" I asked.

"You know, sometimes I think of that," she said with a sigh. "But I must admit that I don't have the strength to do those things anymore. It really takes a good willpower and a lot of strength and a lot of time in the preparation. And I really don't have it anymore. But at eighty-seven years old, that would be natural, I would think."

When I asked her what she thought of Gerson when she first met him, she told me she didn't remember because she was so concerned about her husband at that time. "But my impression afterwards," she told me, "was of a wonderful, wonderful man." Mrs. Maggs has since died, but of old age, not of cancer.

I also spoke to sixty-one-year-old John Ashbaugh, of Portland, Oregon, case #13 in the Gerson book. Ashbaugh traveled to Gerson's New York clinic on October 24, 1951, with malignant melanoma that had first been diagnosed in March 1950. At that time he had a bleeding mole removed. On November 17, 1950, surgeons at Portland's veterans administration hospital amputated Ashbaugh's right arm and shoulder in an attempt to check the spread of his disease. Two months after his operation a benign mole was removed. On August 16, 1951, another nodule was removed. The hospital report reads, "Pathologic study revealed metastatic malignant melanoma." Ashbaugh's melanoma had not been stopped by his amputation. I asked him how he felt when he heard that diagnosis.

"Well, I realized that surgery wasn't going to be the answer to it," he said dryly.

How had Ashbaugh heard about Gerson?

"Strangely, I heard about him through my mother-in-law, who talked to a lady on the bus, who had been through the Gerson therapy. It was a complete accident. When she told me about Gerson, I called him immediately on the phone, and when he found out that what I had did not impair my eating or digestion, he said, 'You come.'"

Ashbaugh's mother had been, as he put it, "a nut on nutrition." She raised her children according to biblical precepts about food, so he grew up recognizing the importance of what he put into his body. "I had always felt that somehow or other diet had to be connected with the disease." As a child he had drunk milk from a dairy that had tubercular cows. All the children in his town had glandular problems. "I think," he said, "that my thyroid glands were affected, because the glands in my neck swelled up tremendously. My thyroid glands did not function. Which meant that I didn't have a normal metabolism. Over a period of time the toxins built up and built up and built up, until finally they were building up faster than my poor metabolism could clean them out." He postulates that the toxin buildup resulted in his cancer.

By the time he got to Gerson in October 1951, Ashbaugh had a new mole below his left ear, a large black swelling at the side of his neck, three swollen glands, and shadows in his lung X rays. He had been suffering violent coughing spells as well.

I confirmed with Ashbaugh that he had first seen Gerson on October 25, 1951, and that the nodes and swellings were gone by November 3, merely nine days later.

"I think that he did find out later, that what I had, melanoma, responded quite quickly. It worked very fast. Then of course I stayed on the diet for a couple of years."

Today Ashbaugh told me, although he doesn't follow the diet strictly, he's careful about his food. He still eats fresh fruits and vegetables as much as possible. "I try to live by the diet without being a nut on it. If I'm someplace where the diet isn't available, I go with what I can get. I eat what most everyone eats. I just don't abuse my privilege. I've always felt that if I had any indication at all that I had any kind of a recurrence I would *immediately* go back on the diet—one hundred percent." I told Mr. Ashbaugh what Mrs. Maggs had said about the difficulty in following the diet, and he said,

"Well, it's true. My mother died of cancer. She was in her late seventies and she absolutely would not go on the diet. She knew about the diet—how it had saved my life—and she would *not* go on the diet. She said, 'I enjoy my food. I have very few things that I can enjoy in life and I'm going to enjoy them, and when my time comes, I'm gonna go.' And she just was adamant about it. She made her decision."

Ashbaugh described the diet as lots of work, adding, "We just did what we had to do at the time. Either you believed it or you didn't, and if you believed it, you stayed with it, which of course I did. There was never any question in my mind about the necessity of following through on it, because I really had no option. There's no middle ground in this diet. When you have cancer or you have a degenerative disease, you have to go on the diet, you have to detoxify the body. There is no chemical pill that you can take with a glass of water that's going to help you out."

I asked him how the doctors at the VA hospital reacted to the Gerson therapy, but Ashbaugh never went back. When he returned to Portland, he asked an insurance doctor named Jacob Ankeles to authorize the necessary diagnostic tests. This physician had lost his infant daughter to melanoma, so he was quite interested in what Ashbaugh was doing. "He would always say to my wife, 'It's a miracle. I can't believe what I've seen.' "

GERSON AND THE PEPPER-NEELY BILL

On July 2, 1946, Gerson presented five recovered cancer patients before a session of the Senate Foreign Relations Committee. The hearing was on a piece of legislation known as the Pepper-Neely bill, "A bill to authorize and request the President to undertake to mobilize at some convenient place in the United States an adequate number of the world's outstanding experts, and coordinate and utilize their services in a supreme endeavor to discover means of curing and preventing cancer." Some of the top medical names of the country testified during the three days of this hearing, including Dr. Rolla E. Dyer, assistant surgeon general and director of NIH; Dr. Leonard A. Scheele, assistant chief of the National Cancer Institute; Dr. C. P. Rhoads, director of New York's Memorial Hospital; Dr. A.

W. Oughterson, medical and scientific director of the American Cancer Society; and Albert D. Lasker, a member of the executive committee of the American Cancer Society.

They testified that for \$100,000,000 a year (which Senator Claude Pepper, then chairman of the committee, assured them was only a suggested figure and easily could be increased if more funds were needed), they could mount the same kind of effort against cancer that had been mobilized to create the atomic bomb. This scenario was echoed in 1971, when President Nixon announced his aggressive war on cancer—with the parallel achievement of putting men on the moon.

In the midst of these glittering medical figures was Max Gerson, without affiliations to any powerful organizations or leading cancer centers, yet the only physician to appear with healed patients. Gerson was brought before the committee by Samuel A. Markel, a private citizen who had been successfully treated by Gerson for osteoarthritis and who urged that any cancer commission established by the committee explore "... every avenue of research that lends promise of a solution of this problem. There should not be a closed corporation or a gentleman's club where nothing would be heard from it."

After giving his credentials Gerson presented his patients. The first was a fourteen-year-old named Alice Hirsch, whose doctors told the girl's parents that her inoperable spinal cord tumor, a deadly glioma, would paralyze her by the end of 1945 and would soon kill her. In June 1946 her father testified, "We had to feed her by hand. We had to take her up out of bed when she wanted to go anywhere, and she could not walk to any extent." But she appeared at the hearing, by which time she had regained almost all of her strength.

Senator Pepper asked Dr. George Miley, executive director of New York's Gotham Hospital, where Gerson was treating patients at that time, "And is it your opinion as doctor that the cure, or the apparent cure, or improvement in the condition of Miss Hirsch which you witnessed, is due to the treatment that Dr. Gerson gave her?"

Miley answered, "Well, I cannot see anything else to account for it. It is the only change in routine which she has had at all. If it were an isolated case you would say, 'Well, maybe she was going to get better, anyway!' But taking it along with quite a few other cases—it is no longer a coincidence."

Mrs. Fleming, another patient, had a lymphatic sarcoma with tumors all over her body. She had no surgery other than a biopsy but had fifteen X-ray treatments. After those her doctor said there was nothing more to be done, that it was just a matter of time. She was taken to see Gerson in May 1944. He put her on the therapy, and in January 1945 the doctor who had performed the original biopsy told her he could find no signs that she had ever been ill.

Mrs. Fleming had been sent to Gerson as a test by Dr. Miley and Dr. Charles Bailey, then a well-known chest surgeon in Philadelphia. Both had been impressed by Gerson's tuberculosis cures, but were amused and skeptical when Gerson suggested that his therapy healed cancer patients. "I picked out the worst case I could find and sent him one," Miley admitted, "which happened to be Mrs. Fleming; and much to my surprise she improved. She was supposed to live three to five months, approximately, and instead, she is still here. The tumors have at least palpably disappeared; they may reappear, but at least there is no evidence now."

Among the other four patients was one who is alive today. George Gimson, a soldier from New Jersey, had a basal cell carcinoma on his neck. Normally such a cancer is treated by surgical removal. Although these cancers have a 10 percent recurrence rate, they are considered highly curable. However they are not without dangers. Although they rarely metastasize, if untreated they will continue to grow and will infiltrate underlying bony structures, destroying them. George Gimson's cancer had already grown into his mastoid bone by the time of his surgery in 1944. This surgery removed the visible growth. X-ray therapy was recommended for the rest of the tumor and Gimson was shipped from Fort Riley, Kansas, to Fitzsimmons Hospital in Denver, Colorado. After examining him, however, doctors there decided his tumor was too close to his brain for X rays. He was discharged from the Army and sent back to his home in New Jersey.

There his tumor began to grow again, causing him great pain. Doctors suggested further surgery, but Gimson refused it. As he told the committee, "They did not do me any good the first time, and my condition was worse." He went to see Gerson, and after less than two months on the therapy his tumor began to diminish.

Dr. Miley testified that he had first met Gerson in 1942, and that since January 1946 Gerson had been working at the Gotham Hospital. Miley went on to state, "We have observed marked relief

of pain in approximately ninety percent of the patients who entered the hospital with severe types of pain due to cancer. The further spread of cancer processes have been apparently retarded by the use of the Gerson dietary regime in several cases observed. A reduction in the size of the original malignant growth has been observed to occur in certain instances following the use of the Gerson diet. . . ." Miley testified that reduction of metastases had not been observed in patients at the Gotham Hospital, but had been seen in several of Gerson's private patients. At this hearing Gerson estimated that he saw a favorable response in 30 percent of his patients.

Miley also submitted letters from four physicians praising Gerson's work. Each of them described observing clinical improvement in advanced cancer patients who used the Gerson therapy, and urged research into the Gerson approach.

The Pepper-Neely bill was not passed, however, and the physicians who supported Gerson at the hearing were exceptions. Gerson and his work were rejected by most of his orthodox colleagues. Throughout his career he was under pressure from medical societies—in 1958 he was suspended by the Medical Society of the County of New York. Today the American Cancer Society includes the Gerson therapy on its Unproven Methods list, warning all cancer patients that cancer cannot be cured by diet, even though that possibility has never been investigated.

MEDICAL EVIDENCE SUPPORTING GERSON

No research has yet been done using the entire Gerson therapy, but there is independent evidence, some of it dating back to before the hearing, that the nutritional elements he used are possible anti-cancer agents, and that the philosophy underlying his therapy is sound.

Perhaps most important is the recognition of vitamin A's anti-cancer activity. Although Gerson did not give his patients vitamin A supplements, the diet supplies an enormous amount of carotene, vitamin A's precursor, which the body turns into vitamin A. There are 74,000 IUs of carotene in half a pound of calves' liver, adding up to 222,000 IUs in the pound and a half of liver juice. An average-sized carrot contains 11,000 IUs of carotene. It takes four or five carrots to make one glass of juice, and as patients drink five glasses of the

juice each day, they consume another 220,000 to 275,000 IUs of carotene.

Since the 1920s researchers have observed that there is a lack of vitamin A in tumor tissue and in other tissues where cancerlike processes take place. In 1932 the first experiment attempting to influence the course of animal cancer with vitamin A was made by a medical student named Clifford Kuh at the Yale University School of Medicine. His thesis in candidacy for the degree of doctor of medicine is entitled "A Study of Vitamin A in Relation to Experimental Cancer." Kuh implanted tumor tissue into mice and fed them varying forms and doses of vitamin A. He got positive results—a flattening of the steep growth curve of the tumor—when he fed the mice a minimum of 1,000 IUs of carotene a day. The Kuh experiment used small numbers of mice, and the results could therefore be regarded as not statistically significant, but a series of German experiments on a total of 348 mice in 1936 showed that when vitamin A was given after mice were inoculated with tumor cells, tumor growth slowed considerably.

In a 1960 German clinical study, reported in *Nutritional Abstracts and Reviews*, 218 patients received intramuscular injections of 300,000 IUs of vitamin A and one gram intravenous injections of vitamin C daily for between fourteen and twenty-one days. Smaller amounts were then injected and large amounts fed by mouth for three to six months. Growth of tumors generally stopped or regressed and no side effects were seen.

In the late 1970s researcher Reuben Lotan at the Weizmann Institute of Science in Israel, along with colleagues in the Department of Developmental and Cell Biology at the University of California at Irvine, demonstrated that derivatives of vitamin A known as retinoids reduced cell proliferation rate in several kinds of cancer cells, including human cervical cancer and mouse melanoma. Researchers at New York's Albert Einstein College of Medicine recently found that women whose Pap smears showed precancerous changes had a lower dietary intake of vitamin A. Both of these studies led Dr. Frank L. Meyskens, Jr., at the University of Arizona to investigate the effects of direct application of retinoids to the cervix. He designed a device that would hold a retinoid-soaked sponge against the cervix and tested it in eighteen women who showed precancerous cervical changes. One third of the women showed a reduction in abnormal cells after only four days.

Recent studies have shown that carotene is a protection against cancer. In a nineteen-year study of 1,950 employees of Chicago's Western Electric Company, researchers at Rush-Presbyterian-St. Luke's Medical Center found that there was significantly less lung cancer in those whose diets were high in carotene than in those who ate a low intake of carotene. The 488 men who ate the least carotene had 14 cases of lung cancer. The 488 who ate the most carotene had only 2 cases of cancer. Norwegian and Japanese studies have confirmed this protective effect, and as a result of these findings more studies are being planned. One large-scale five-year study recently begun at the Harvard Medical School involves 20,000 doctors. Some will be given pills containing beta-carotene while others will be given placebos. Neither the physicians nor the researchers will know which group of subjects is receiving which substance until the end of the study, when the contents of the pills will be revealed and the two groups of doctors compared to see which has the lower cancer incidence.

One study now taking place was begun in 1976 by the National Cancer Institute under the direction of Dr. Michael Sporn. In this long-term clinical trial a derivative of vitamin A, a synthetic retinoid known as 13-cis-retinoic acid, is being studied for its prophylactic effects on a group of individuals known to be cancer prone.

One reason the artificial retinoid is being used is that vitamin A is toxic in large amounts and is particularly damaging to the liver, where unused excess is stored. Another synthetic form of vitamin A, known as Ae-Mulsin, is widely used in the alternative movement. Developed by Mucos, the Munich pharmaceutical firm headed by biochemist Karl Ransberger, Ae-Mulsin was first used as an immune stimulant at the Janker Clinic in Bonn, Germany, by Dr. Hans Hoefer-Janker and Dr. Wolfgang Scheef. It was the form of vitamin A used by Loyola University's Dr. Harold Manner, along with enzymes and Laetrile, in dramatic experiments that resulted in 90 percent remissions of breast cancer in mice. It is now widely used by a growing number of alternative physicians in this country, and in such alternative cancer centers as the Fairfield Medical Center in Jamaica. Because it is so readily available, patients should be aware that the substance has aroused some controversy, even within the alternative field.

Because the Ae-Mulsin is emulsified, it doesn't go directly to the

liver, but is picked up by the lymphatic system and carried to the heart, which pumps it through the body before it reaches the liver. In this way patients at Janker and other European hospitals that use it can take up to 30 million IUs per patient over a period of two to three weeks. In some cases the Janker Clinic reports striking remissions using Ae-Mulsin, although no long-term survivals have been reported.

Ae-Mulsin, however, is not harmless in such high doses. There are short-term side effects, including loss of hair, severe headaches, and skin peeling, but these symptoms disappear after the Ae-Mulsin is withdrawn. More significant, there are long-term dangers. Both Dr. Michael Schachter and Dr. Arthur Davis, nutritionally oriented physicians, warned that although they have seen patients do well with Ae-Mulsin, they have also seen patients suffer liver damage because of it. They strongly suggest that it be used only with great caution. Ruth Sackman, director of New York's Foundation for Alternative Cancer Therapies, is vehemently opposed to its use for cancer patients, describing it as an artificial substance and extremely dangerous.

Interestingly, none of the Gerson patients I spoke to suffered any vitamin A side effects despite the large amounts they received in that therapy, both as vitamin A in the liver juice and as organic carotene in the carrot juice. Evidence is accumulating that carotene is nontoxic. Even if it is stored in the body and results in the slightly orange skin color called carotenosis, it does no harm.

Potassium is another element vital to the Gerson program that is now regarded as an anticancer agent. According to biochemist Dr. Richard Passwater, in his book, *Cancer and Its Nutritional Therapies*, "My colleague, Dr. A. Keith Brewer, has noted that cancer cells appreciably take up potassium; even more important, he has found that additional potassium increased the alkalinity of the cell, causing cell death."

Experimental confirmation that the sodium/potassium balance is a factor in controlling cell growth comes from Clarence D. Cone, a biophysicist and former head of the Molecular Biophysics Laboratory at NASA's Langley Research Center in Hampton, Virginia. Cone found "that proliferation of malignant (and normal) cells in cultures can be effectively 'turned-off' by suitably lowering the intracellular sodium concentration while elevating the potassium con-

centration, and the blocked cells soon die; the key factor . . . is the lowering of the intracellular sodium level." Other than through dietary adjustment no practical way of treating patients using this approach has been found.

In an article in the January 25, 1980, *Journal of the American Medical Association*, William J. Regelson, M.D., in a radical departure from the orthodox position regarding Gerson, writes, "We may shortly have to ask if Gershon's [sic] low-sodium diet, with its bizarre coffee enemas and thyroid supplementation, was an approach that altered the mitotic regulating effect of intracellular sodium for occasional clinical validity in those patients with the stamina to survive it?"

Although researchers have not yet investigated iodine as an anticancer agent, an iodine deficiency has been linked to increased breast cancer incidence.

In another recent confirmation of Gerson's nutritional approach, Nicholas Petrakis and Eileen B. King, two epidemiologists at the University of San Francisco, report that women who are severely constipated have a greater number of abnormal cells in their breasts. The researchers say that a diet high in protein, fat, and refined carbohydrates and low in fiber can cause constipation. Such a diet can also stimulate the production of estrogenlike hormones, which might encourage the growth of abnormal cells in the breast. Petrakis and King note that during the first twenty years of this century several distinguished surgeons commented on the frequency with which they found chronic cystic breast disease and breast cancer in women who were constipated. These doctors observed that ". . . the cystic condition resolved after dietary or surgical correction of the constipation and auto-intoxication."

Petrakis and King's study offers one possible explanation of what a Scottish study of breast cancer rates in forty-one countries revealed: that a high consumption of refined sugar, fats of all kinds, and animal protein was associated with high rates of breast cancer.

THE WILL TO SURVIVE

But there is more to succeeding with the Gerson therapy than simply ingesting the proper nutrients and detoxifying frequently: there is the intangible drive to succeed that I found in patient after patient. Some patients are soon inspired to stick to the therapy by the im-

provement they see. But they are first inspired by the personality of the therapist. Patients treated by Gerson described him as a powerful figure. Rosmond Ray told me he was ". . . a likable person, and yet he could yell at you if he thought you weren't going to do just what he said. One time he did just scare me to death. I wanted to come home to California early because I felt so alone in New York, and he *roared* at me. He really scared me."

John Ashbaugh described him as, "Very German. Very positive. When I first met him he said, 'Do you smoke?' I said, 'Yes,' and he said, 'You quit.' He asked, 'Do you drink?' I said, 'Occasionally.' He said, 'You quit.' Of course, I'm from German stock on my father's side. I have lots of German relatives. So I had no difficulty understanding Dr. Gerson."

John Gunther, whose son Johnny was treated by Gerson, had been hesitant to try the therapy. But after he met Gerson, he wrote in *Death Be Not Proud*, "He impressed me greatly as a human being. . . . This was a man full of idiosyncrasy but also one who knew much, who had suffered much, and who had a sublime faith in his own ideas."

Charlotte Gerson Straus has inherited that sublime faith. Because she also inherited her father's migraines, she follows the therapy and in her late fifties looks forty-five. With a high-pitched, faintly accented voice she is always certain of what her father's therapy will do and has little patience with those who tamper with his carefully constructed plans. About other nutritional therapists who begin by using the Gerson therapy but who then simplify or otherwise change it, she says, "They start on the right foot, and then when they assemble a good reputation, they do a little of this and a little of that. And patients do not do well."

It is Charlotte who knows when every healing crisis will begin and end and how severe it will be. It is she who tells patients when to add more protein, when to take more coffee enemas, when to cut down on supplements, for it is she who spent years watching her father at work and seeing what made his patients recover or succumb. When she's home, her phone rings continually, mostly calls from cancer patients with urgent questions. I made the rounds with her at La Gloria and watched as she sat at each patient's bedside, fixing her eyes on theirs, asking one about a swollen foot, another about the severity of a reaction. She answered every one of their questions completely.

One woman with metastasized breast cancer told Charlotte, "My body hurts a lot, but I could stand that if I weren't so depressed."

Charlotte told her, "You must not say I have a terrible disease and I'm going to die, but I have this disease and I can overcome it. You have to fight." She explained to the woman that because her body was sick, her brain was sick as well. "When you are completely healed, you will be a different person. You will have a new sense of self." After half an hour of advice and encouragement, as she left the room, she said, "Take your life in twenty-four-hour doses. There will be good days and bad days. As time goes on, more good days than bad days."

Ed Morgan remembered Charlotte's confidence vividly. After surgeons removed malignant lymph glands in his groin, his left leg was swollen and infected. He was given six weeks' worth of increasingly powerful antibiotics, which did not clear up the infection. "When I went down to the clinic in Mexico, Charlotte came up to the room, talked with me for about thirty minutes. I showed her my two operations and my leg, which was all ugly and swollen. She looked at that leg and she said, 'That looks very ugly.' And I said, 'Yes, it feels real bad.' She said, 'That'll be gone in five days on the therapy.'

"I thought, Yeah, sure. It'll be gone in five days. The hospital couldn't do it in two months, and you're going to do it in five days? Well, it wasn't gone in five days. It took six days. What they couldn't do in the hospital in two months using every drug they had, happened in six days on the therapy."

Of course, not every Gerson patient improves. In those cases, Charlotte says, the cancer was simply too far advanced and vital organs were too badly damaged to repair. Although the liver has remarkable regenerative powers, if more than half of it has been destroyed it will rarely recover. If the digestive system has been too ravaged, the Gerson therapy will not work; although surgical removal of tumors is compatible with Gerson's approach, sometimes surgery has removed parts of the digestive tract necessary for the therapy. Too much radiation can also prevent healing. For Charlotte, however, chemotherapy is the greatest destroyer and the Gerson clinic in Mexico now refuses to admit patients who have had any.

"The chemotherapy destroys the very centers that we require

for healing, essentially the bone marrow cells and the so-called Kupffer's cells in the liver." The Kupffer's cells, like the bone marrow cells, are part of the immune system: they filter waste products and bacteria from the blood. "These are so severely damaged that we can no longer reactivate them. We do not get healing. And I've tried it and tried it on the special request of a number of patients—close to two dozen—and we've had not one single survival."

Leukemia patients should note that in my experience and that of several alternative therapists, the Gerson therapy has not been effective with that disease. Chemotherapy does give at least a 50 percent five-year survival rate.

Gerson's therapy did not save one of his best-known patients, author John Gunther's son, Johnny. The boy had a glioma, the same kind of tumor Alice Hirsch had. Johnny Gunther's tumor was even more dangerous, however, as it was in his brain. Gunther tried every medical therapy, including nitrogen mustard, which in 1946 was the newest approach to cancer. But Johnny's tumor continued to grow and his condition to deteriorate.

Radio news commentator Raymond Gram Swing, who had attended the 1946 Senate hearings, proposed to Gunther that he take Johnny to see Gerson. Although Gunther's physician was violently opposed to Gerson at first, he soon relented. Johnny Gunther was failing. One of his many doctors didn't expect him to last the week; another had never seen a patient in Johnny's condition recover, and he didn't see what harm the diet could do. Gunther took Johnny to Gerson's nursing home in Manhattan at the beginning of September, and within a week the boy's blood count was normal and his tumor grew smaller. Johnny hated the diet, but he continued to improve throughout the fall. By late January 1947 he was able to return home. His doctors were astounded by his condition and his father dared to hope that a miracle had happened.

When I talked to Dr. Joseph Burchenal, the Memorial Sloan-Kettering chemotherapist who worked on the case, he thought it impossible that the Gerson therapy could have been responsible for Johnny's improvement. "But I'm not at all sure that ours had too much to do with it either. Nitrogen mustard hasn't been very successful. It may easily have been that it was just a coincidence."

Although he continued the therapy at home, Johnny's rally did

not last very long. By late February his tumor began to grow again. Gunther mentions that the doctors tried "... to step up the regime with hormones," and according to Gerson, it was the hormones that did Johnny in. Gerson said he objected to them at first but finally allowed them.

Gerson did not mention the chemotherapy, perhaps because chemotherapy was then so experimental that he had not yet had negative experiences after its use. Charlotte, however, today blames the nitrogen mustard for Johnny's decline and death.

I reread *Death Be Not Proud*, and I was struck by John Gunther's descriptions of his son's sweet, undemanding nature. At the very beginning Gunther tells us, "Johnny was the only person I have ever met who, truly, never thought of himself first, or for that matter, at all; his considerateness was so extreme as to be a fault." Examples of this generous spirit are threaded throughout the book. Gunther calls the story a gallant fight for life, but the picture he presents of Johnny is of a soul too sensitive to fight.

The survivors I met were not gentle. When Mrs. Ray's doctors continually urged her to have a colostomy, she steadfastly refused. "They just didn't realize how determined I could be," she told me. When Ed Morgan found it hard to stick with the therapy, instead of quietly fighting the battle alone he organized a group of Gerson patients in the San Diego area. "We're like a bunch of alcoholics. When we get a little frightened or depressed or we're not feeling good or the temptation to have a steak or a pizza gets too strong, well, we call each other up and it helps."

When I asked Charlotte about this, she replied, "We do get people who have a good outlook, who want to be well, who want to fight, who have a good will to live and reason to live. They're going to make it. We do get people who are absolutely, for their own reasons, just not interested in continuing to live. Those we cannot help. They will not make the effort to help themselves."

"You see, this is one other very important area. In this particular therapy you cannot go ahead and damage your body beyond repair and then tell the doctor, 'Here, Doctor, take my body, take care of me. I give all the responsibility into your hands.' In this therapy you must remain in charge and responsible for your own body. If you are unable or unwilling to take that responsibility, you won't make it."

LAETRILE

Nothing about Laetrile is easy.

To get to Playas de Tijuana, site of Dr. Ernesto Contreras's fifteen-year-old Centro Médico del Mar, the best-known Laetrile treatment center in the world, patients take the Ensenada Toll Road from the border. When I visited, for most of the trip it was a modern four-lane highway that swooped gracefully out of the rounded Mexican hills on its way to the Pacific. Before patients got to this sleek stretch, however, they had to drive through a section where the road disappeared. A mile beyond the Mexican border a hand-lettered sign reading DIP hung from a low underpass. Cars slowed down, dipped, and suddenly the road was gone; there was nothing but a wide swath of deeply rutted sand and chunks of broken concrete. Under the hard blue Mexican sky cars lumbered clumsily across this blasted terrain, like prehistoric aquatic animals thrust onto dry land. For a few hundred yards everyone but a few Mexican daredevils bounced along at five miles an hour until, as if by magic, the smooth surfaced road appeared again. The road has since been repaired, but the problems faced by Laetrile and its supporters grow worse instead of better.

The Centro Médico del Mar is a spanking white two-story building attached to a motel whose main structure flanks a row of squat auxiliary housing units. Each of these white-roofed buildings is shaped like four Conestoga wagons arranged in a cross. It's a short walk to a huge bullring by the sea and the Pacific Ocean itself. The Hospital del Mar, where nonambulatory patients are treated, is about a mile away.

Emblazoned on the outside wall of the clinic is a large plaque depicting a hugely muscled man engaged in desperate combat with a super-sized crab. This struggle showed in the faces of almost everyone I met in the noisy, busy waiting room or on the sunlit patio. But despite their illness and their fear the patients were excited and full of vitality. "You see them come in with that lost, desperate, and hopeless look," one patient pointed out to me, "but in two or three days you see them perk up. Home they're waiting to die. Here they're waiting to get on their feet."

This man had come from Florida with a diagnosis of cancer of the pancreas, a nearly always fatal cancer. He too had noticed how different the atmosphere was in United States cancer centers. In those waiting rooms patients rarely speak to each other. At Centro Médico del Mar cancer patients are animated, eager to share their stories. They check in here each morning of their two- to three-week stay, wait to see their doctor, and get a number. Then they go outside and down a flight of stairs to the treatment center, where they wait in a big lecture room for their number to be called. Each patient then enters one of a line of small cubicles where nurses give enzyme enemas and Laetrile injections. The lecture room was empty when I was there, but every Monday afternoon it's full of new patients who listen to Dr. Contreras and guest speakers explain the rationale of amygdalin therapy and answer their many questions.

They come from all over the United States, all ages, with all types of cancer. There was the tense, energetic old woman with the brilliant red hair and finely wrinkled face, who had come from Arizona with her recently diagnosed lung cancer. There was the serious young man from Charlotte, North Carolina, there with his father. The son had already lost a leg to a rare bone cancer that was now spreading throughout his body. There was Jane, an ebullient nurse from Canada, full of horror stories of mistreatment at the hands of her Canadian chemotherapyists and nurses. Her sweet-faced mother was a long-term breast cancer survivor herself. But her cancer had been neatly encapsulated when it was removed; Janie's had already spread to her lymph nodes when she had her mastectomy.

Janie and the others might turn out to be as fortunate as the California woman who had been coming to the clinic for a lymphatic cancer since 1970. Her cancer was under control and she, like everyone else, praised Contreras unreservedly for his kindness, expertise, warmth, and spirituality. "Whenever I would say, 'Doctor, thank you. You saved my life,' he would smile and point heavenward and say, 'Not without Him.' "

Contreras is a robust, smiling man with a bushy black mustache. His two sons help him run the clinic, and his son-in-law, Dr. Abel Mellado, is the director of the Hospital del Mar.

Like the more than fifty other physicians in the world who use Laetrile, Contreras never uses it alone. It is always part of a program that is similar to the Gerson therapy, including a low-protein, high

raw and natural foods diet; coffee enemas, pancreatic enzymes; certain protein dissolving or proteolytic enzymes—either taken orally, injected into the tumor site, used with the solvent DMSO as a poultice for external tumors, or given as retention enemas—vitamins (particularly A and C); minerals; and glandular extracts. This program is referred to within the alternative movement as metabolic therapy.

Unlike most other doctors who use metabolic therapy, Contreras is an oncologist who also uses surgery, low-dose radiation, and chemotherapy with about two thirds of his patients. A graduate of the Mexican Army Medical School, Contreras first became interested in Laetrile therapy in 1963, when he saw the striking improvements it made in several Canadian cancer patients. He soon began using the therapy and has used it ever since.

At the Centro Médico del Mar he and his staff have treated more than fourteen thousand patients. He told me he has seen a good response—ranging from relief of symptoms to long-term regression of tumors and control of cancers—in between 30 and 35 percent of all patients. He says in 5 percent of terminal cases Laetrile therapy has achieved long-term remission. More than 90 percent of the patients Contreras sees have been through orthodox therapies and have been told there's nothing more that can be done.

A Canadian I'll call Warren Thorning is one cancer patient who had gone that route. People came to Warren for advice even though when I met him, he had been on the Laetrile program for only a year. In 1978 he had won major battles against the metastasized lung cancer he developed in 1977. He sat across from me at a small table in Motel 8, the California motel just this side of the Mexican border whose clientele is almost entirely cancer patients. Warren is a bulky, frank-faced man, his hair standing up brushlike from the top of his head. A retired radio announcer and motel owner, he and his wife had become farmers, working together to raise the vegetables they eat.

When Warren first came to Mexico, he hadn't been able to do much work in the fields. He arrived on the last day of October 1977. "When I got here," he told me, "My eyes were bugging right out, trying to get my breath. I was bleeding awful bad in the lungs. And they told me that I might not make it over the weekend. I was going to choke to death." Warren could barely walk a block when he

arrived, gasping and in terrible pain. By the end of his eighteen days at the clinic he could run. "My pain started to go away in three days, and I've never looked back since," he said.

His trip to Centro Médico del Mar was an odyssey that began with six months of misdiagnoses by several physicians who told him variously that he had pneumonia, walking pneumonia, or a chest infection. He finally visited a lung specialist who diagnosed his cancer. At his Canadian clinic he was told, "It's in a messy place," and was therefore inoperable. "I found another doctor two days later, and he told me the story on it: It was so far advanced, they couldn't operate. It just went everywhere—my lymph nodes, all over my back, up into my throat, in my bronchial tubes and my windpipe. In the end I was going to choke to death."

Before he undertook any therapy, having heard the Laetrile controversy, he asked a friend at his former radio station to broadcast the message that he was looking for someone who had been to the Contreras clinic. "I got calls from everywhere. I spent three or four days just going from one place to the other talking to people. Every one of them told me, 'Don't go to the clinic here. Get on the plane and go to Mexico. Get going!' But every one of them had gone through the medical route and been sent home to die." Because everyone he spoke to had gone through orthodox therapies, Warren decided to do exactly what they had done. He felt, almost superstitiously, that if it worked for the others to go through chemotherapy and radiation first, even though these treatments were not effective for them, then he should do that too.

So he suffered through eight shots of chemotherapy, a nightmare for him. "I don't know how big the shots were, but I know they were enough to have just about killed me. If someone came along and pointed a gun at me I could have posed for them, I wanted to die that bad. Depressed?—Ooooooooh," he said.

After the chemotherapy he took cobalt treatments, but neither had any effect on his cancer, which continued to grow.

"So they told me in the end there was nothing more they could do for me after I had taken all that cobalt and chemotherapy. I told them I was going to go to Mexico and the doctor told me that the stuff I was going to get in Mexico was cyanide poison and it would kill me." Warren laughed shortly. "That would be a hell of a thing to happen if I died a week early, wouldn't it? I was dying!" he roared.

The doctor, who had no treatments to offer, also told Warren he would spend twenty thousand dollars in Mexico, and, if all that wouldn't be enough to dissuade him, added that he would need a passport. Warren dismissed all of his doctor's warnings and wound up paying less than five hundred dollars for his first eighteen days of treatments at the Contreras clinic, including X rays. Rates in 1982 averaged about three hundred dollars a week for outpatients and between seven hundred and eight hundred dollars a week for hospitalized patients—many times lower than the astronomical figure suggested by Warren's physician.

Warren managed to push his luck even further. When he called the Contreras clinic, he misunderstood what they told him. He thought he had to wait for six weeks after the completion of any radiation therapy before he could begin Laetrile therapy. So he waited, his tumor growing, gradually squeezing the life out of him. "I finally came and got here just in the nick of time." Back in 1977 Warren himself was doubtful that he had made it in time. "I figured, I'm gonna die. I could see what was happening to me, I could feel it. I was so full of pain, getting so weak so fast, that I didn't think I was going to make it." But Warren didn't lie back and accept it, didn't give up and say nothing more could be done. Even though he thought the end was near, he told me, "I figured, I'm gonna give one hell of a fight. They're gonna bury me kicking." It's an attitude he's had all his life. "He wouldn't back down for anything," his wife confirmed.

He told me, "In my case I felt I was given the willpower. Nothing was going to get in my road. I was comin'."

Doctors hovered over him throughout that first long weekend, injecting him with the Laetrile, the enzymes, starting him on the diet. He slowly began to respond.

I have lost touch with Warren, but when I met him he was taking his Laetrile, the enzymes, and staying on the diet, which for him was easy to follow. "There's nothing wrong with the diet. It's just good food," he said. He planned to visit Tijuana every six months for a checkup. He felt that he would always have lung cancer, but that metabolic therapy would control it. He had never been back to the Canadian clinic, even though they urged him to visit, saying they wanted to see how he was progressing. I don't know if Warren is still alive, but even if he lost his battle with cancer, I know he would have felt gratitude to Laetrile therapy. He told me, "A year has gone by

and the treatment doesn't owe me anything. If I should die tomorrow, I've had one good year that I wouldn't have had without any pain, and I've worked every day."

HISTORY OF A THEORY—AND A THERAPY

The first thing to know about Laetrile, also referred to by proponents as vitamin B₁₇, is that it does not exist outside the body. Laetrile is a trademark for an unstable, short-lived chemical compound. Chemically it is very similar to amygdalin, a naturally occurring nitriloside (cyanide-containing compound). Anything sold as Laetrile is not Laetrile at all, but probably amygdalin. According to Laetrile theory, when a patient on the metabolic program takes amygdalin it is broken down within the body to produce Laetrile, which is further broken down to release two substances, cyanide and benzaldehyde, at the tumor site.

However, the word Laetrile is widely used—even the National Cancer Institute sometimes refers to Laetrile when it means amygdalin. To be consistent, in this chapter I use Laetrile when discussing the controversy or quoting sources who used that word. I distinguish between Laetrile and amygdalin when describing biochemical actions.

Amygdalin, Laetrile's source, is widely available. It is found in the seeds of all common fruits, most abundantly in the kernel at the heart of an apricot pit, and in some twelve hundred plants, including brown rice, bamboo shoots, macadamia nuts, sorghum, millet (which was once the most widely eaten grain in the United States), cassava, buckwheat, chick-peas, lima beans, lentils, and sprouts. If you want to know what it tastes like, eat the seeds of an apple.

Amygdalin has been used as an anticancer agent for nearly five thousand years. Several entries in the *Great Herbal of China*, an ancient pharmacopoeia dating back to between 2800 and 2500 b.c., refer to "sacred seeds," which are seeds of apricots, among other fruits. The herbal recommends applying poultices of the ground seeds to remove breast tumors. These seeds were also used to treat tumors by ancient Egyptian, Greek, Roman, and Arabic physicians, including Celsus, Scribinius, Galen, Pliny the Elder, Marcellus Empiricus, and Avicenna.

Laetrile's history in America, as recounted by Laetrile advocate Michael Culbert in his pro-Laetrile book, *Vitamin B₁₇: Forbidden Weapon Against Cancer*, dates back to San Francisco in the 1920s. Dr. Ernst T. Krebs, Sr., was a physician trained in pharmacology who discovered a substance in apricot kernels that reduced tumors in some mice. The substance was toxic, however, and killed some mice as well. Krebs believed that he had isolated a protein-dissolving, or proteolytic, enzyme.

At the end of the 1920s Krebs began using this material on cancer patients. His results included some diminution of tumor size, increased energy, and relief of pain. After a few years of this scattered investigation, Ernst Krebs, Jr., became involved with his father's work. One day young Krebs was given a book written by John Beard, a Scottish embryologist and professor at the University of Edinburgh who lived from 1858 to 1924 and who had a theory of cancer that has never been proven or disproven.

As an embryologist Beard was well acquainted with the preembryonic cell called the trophoblast. When stimulated by estrogen, this becomes a rapidly growing, invasive cell that corrodes part of the uterine wall so the fertilized egg can attach itself and absorb nutrients from the mother. Beard was intrigued by the similarities in behavior between the trophoblast and the cancer cell, and wondered if a cancer cell could possibly be a misplaced trophoblast.

He began to study the fertilized egg and determined that trophoblasts, after several cell divisions, developed from it. A group of these potential trophoblasts, however, do not become trophoblasts. When the embryo has grown sufficiently, some of these cells move into the sex organs, where they mature into sperm or ova. Between 20 and 30 percent of these potential trophoblasts are dispersed throughout the body, however, and Beard reasoned that these cells, under the influence of estrogen, might later develop into cancers.

In pregnancy the trophoblast multiplies rapidly until the fifty-sixth day, when the fetal pancreas begins to secrete enzymes that cause it to deteriorate. If the growth of the trophoblast were checked by pancreatic enzymes, Beard theorized that the growth of cancer cells could be stopped by these same substances.

Beard's hypothesis led British physicians in the early 1900s to perform a number of clinical trials using pancreatic enzymes. According to reports in turn-of-the-century British medical journals,

many cancer patients treated with these enzymes enjoyed dramatic relief of symptoms, regression of tumor, weight gain, improvement in the quality of life, and so on.

The Krebses injected the pancreatic enzyme chymotrypsin into mice with cancer, but it was not effective. Ernst Krebs, Jr., remembered his father's extract of apricot pits, analyzed it, and discovered that it was not an enzyme at all, but a nitriloside, containing cyanide. It was the cyanide that had killed the mice. What, Krebs, Jr., wondered, had caused the tumors to shrink? He continued to research. According to the early Laetrile literature, he found that his father's compound consisted of one molecule called mandelonitrile that contained cyanide and a substance called benzaldehyde, and two sugar molecules. Beta-glucosidase, an enzyme that he believed to be present in large amounts in cancer cells, split his father's compound, releasing cyanide at the tumor site, where it killed the cancer cells. Krebs, Jr., also found that healthy cells have high concentrations of another enzyme called rhodanese. This enzyme detoxifies the cyanide, turning it into a harmless substance. While great amounts of rhodanese are normally found in healthy cells, it is not present in cancer cells, which therefore have no protection against cyanide.

But Krebs, Sr.'s, compound was too toxic: obviously cyanide could be released in other places besides the tumor site. Krebs, Jr., finally extracted a substance from the compound that would release cyanide only at the tumor site. He identified it as *laevo-mandelo-nitrile-beta-glucuronide*—which he called Laetrile. He tested this substance in mice and found no toxic side effects, then safely injected some into himself.

This theory has been refined somewhat today. According to the current description, the sugar molecules in the amygdalin are removed by beta-glucosidase, leaving mandelonitrile. The body attempts to detoxify this molecule by joining it with glucuronic acid. This new compound is the true Laetrile. If a patient's nutritional status is appropriate, cancer cells will be permeable, allowing Laetrile to enter them. There, an enzyme called beta-glucuronidase splits off the glucuronic acid, leaving the mandelonitrile within the cancer cell. Once again, if nutritional needs have been met, the cancer cell will be alkaline and the mandelonitrile breaks down in this alkaline medium to release cyanide and benzaldehyde at the tumor site.

Krebs theorized that cancer control had two major aspects. The

proteolytic enzymes produced by the pancreas were the body's internal method of controlling cancer, attacking and destroying cancer cells as they arose, just as they digest the animal protein we eat. Amygdalin, Krebs maintains, is the external control. "Amygdalin was once part of the normal diet of man, but with our abandonment of millet and buckwheat as common grains, we have been removed from dietary adequacy. We look at cancer as a product of fulminating dietary deficiency in the same way as other metabolic diseases. It is a vitamin B₁₇ deficiency disease with accompanying vitamin C deficiency. To prevent cancer, eat seeds, eat your food whole and natural, and eat it raw. Man has only been cooking his food for ten thousand years, you know."

Krebs points out that wherever the food supply is rich in amygdalin, there is very little cancer. The Hunzas of the Himalayan mountains are one frequently cited example. They raise apricots and eat as many as thirty or forty kernels a day. Despite their longevity there is no cancer among the Hunzas. The Eskimos, before they began eating refined foods, also had a very low cancer incidence. This fact was used by Laetrile opponents to prove that Krebs was wrong when he said amygdalin was a protection against cancer. Where could Eskimos, who ate primarily animal flesh, get amygdalin? However, one of the major Eskimo foods was caribou. The first thing the Eskimos did after killing a caribou was to slit open its stomach and eat its contents. This was mainly arrow grass, which has the highest concentration of amygdalin of any plant in the world.

In 1950 Krebs, Sr., started testing Laetrile on his own terminal cancer patients. He began cautiously with very small doses, intramuscular injections of 10 mg every third day. The reactions he saw were encouraging. He first observed relief of pain, followed by a return of appetite and some weight gain. Bedridden patients gained enough energy to walk; some patients lived longer than their prognoses and their deaths were far less painful than one would have expected. Although Laetrile seemed to be a palliative therapy, because these were advanced patients whose cancers had severely damaged their vital organs, they did die. Krebs searched for patients with earlier cancers, but other physicians in the San Francisco area refused to try Laetrile when they learned its action was based on cyanide. Dr. Arthur T. Harris, a Los Angeles physician who had studied embryology under John Beard, decided to take a chance. He got good results with a number of advanced can-

cer patients, and other Los Angeles doctors began using Laetrile.

Although Krebs reportedly wanted to keep his work secret until more about amygdalin was known, this task proved impossible. More doctors began using it and recovering patients were eager to talk about their good results. Medical groups began to complain about this unproven therapy, and in November 1952 Harris invited the chairman of the California Cancer Commission, part of the California Medical Association, to examine forty-four cancer patients who had used Laetrile. After examining the patients the commission declared that the patients were enjoying a late response to surgery or radiation, that they were undergoing spontaneous remissions, or that they never had cancer in the first place. On March 23, 1953, the commission announced to the press that Laetrile had been thoroughly investigated, found to be worthless, and that action would be taken against doctors who prescribed the drug. This report became the basis of much anti-Laetrile propaganda and is still quoted by every amygdalin opponent, from the American Cancer Society to individual doctors who oppose it.

Laetrile supporters claimed that the forty-four patients were not thoroughly examined. Despite its negative conclusions the report did state that ". . . all of the physicians whose patients were reviewed spoke of increase in the sense of well-being and appetite, gain in weight and decrease in pain. . ." However it dismissed these comments, adding, ". . . as though these observations constituted evidence of definitive therapeutic effect."

The California Medical Association then pushed through a law declaring it illegal for doctors in California to use any cancer treatment that the association had not approved or that was not in general use—in other words, nothing other than surgery, radiation, and, today, chemotherapy. The law also prohibited any cancer research that had not been approved by the California Cancer Commission.

It seemed that Laetrile was finished as far as American doctors were concerned. But new interest surged when foreign doctors who had used the substance began to report their experiences. In July of 1954 Dr. Ettore Guidetti, of the University of Turin, Italy, reported that direct application of Laetrile to growths in the uterus, cervix, and rectum, as well as to ulcerating breast cancers, caused the tumors to dissolve. Dr. Manuel D. Navarro, professor of biochemistry and therapeutics at the University of Santo Tomas, Manila, reported

that throughout the 1950s and early 1960s Laetrile had palliative effects on his cancer patients. These doctors discovered that Laetrile worked better when it was injected intravenously rather than into muscle and that injections up to 400 mg could be tolerated.

In 1962 an American, Dr. John A. Morrone, attending surgeon at the Jersey City Medical Center, used Laetrile on ten cases of metastasized cancer. His report appeared in a 1962 issue of *Experimental Medicine and Surgery* and states in part: "The use of Laetrile . . . intravenously in 10 cases of inoperable cancer, all with metastases, provided dramatic relief of pain, discontinuance of narcotics, control of fetor [the noxious odor of advanced cancer], improved appetite and reduction of adenopathy. The results suggest regression of the malignant lesion. . . ."

The only reported side effects were a slight drop in blood pressure, some itching, and a sensation of heat in the tumors, which quickly passed. However despite these positive findings Laetrile faltered yet again. Morrone died soon after these clinical experiments and his work was never followed up. In March 1963 the Food and Drug Administration declared Laetrile to be ineffective in the treatment of cancer; by the end of 1963 the California State Public Health Department specifically banned the use of Laetrile in the state.

THE LAETRILE CONTROVERSY

Since Krebs's discovery that this substance would reduce the size of tumors in some mice, Laetrile's use has increased considerably. According to the National Cancer Institute, in 1977 an estimated one million grams of Laetrile a month were administered to some fifty thousand cancer patients. The Committee for Freedom of Choice in Cancer Therapy, Inc., the organization that spearheaded the movement to legalize Laetrile, estimated in 1980 that some two thousand patients a month went to Mexico to obtain it.

In 1975 the FDA declared Laetrile ineffective against cancer and banned its import and interstate shipment. However Laetrile has been de facto legal throughout the United States since the end of 1977, when Oklahoma Circuit Court judge, Luther Bohannon, ruled that terminally ill cancer patients with affidavits from their physicians could legally obtain it. The substance has also been legalized in twenty-four states, largely on account of the efforts of the Committee for Freedom of Choice.

Laetrile has become a highly charged political symbol for thousands of patients and approximately thirty American physicians disenchanted with contemporary medical treatments for cancer. Their rallying cry is freedom of choice and they claim that a greedy and unscrupulous cancer establishment is purposefully preventing progress toward a cancer cure—in particular a low-cost, relatively harmless, readily available one such as Laetrile and its accompanying metabolic therapy.

The orthodox cancer establishment counters this last argument by pointing out that amygdalin is not as cheap as its advocates maintain. The substance currently costs patients \$11.50 for a two-and-a-half-gram vial or eighty-five cents per 500+ mg tablet. Normal dosage is three vials a day or three to four tablets a day, although in crises patients can receive as much as six daily vials of amygdalin.

Although Laetrile is the best known of the alternative therapies, the many contradictory claims and counterclaims on both sides still make it difficult to assess its action and effectiveness. The scientific facts seem clear: in 1981, clinical trials sponsored by the National Cancer Institute showed that amygdalin has no value in the treatment of cancer. The announced results of the study, held at five leading cancer centers in the United States, were as follows: Using the entire metabolic program, researchers found that within three months 90 percent of the 156 patients had experienced growth of their cancers, half the patients died within five months, and only 20 percent were alive after eight months. These figures, researchers said, were comparable to those that would have been obtained if patients had no treatment at all. Only in five percent of all patients was any palliation of symptoms observed.

It would seem clear, then, as a result of these tests, that Laetrile does not work. However Laetrile supporters were not surprised at these findings. They had claimed from the beginning that the tests were designed to fail. They cited patient selection criteria as described in the NCI protocol, according to which, the selected patients were those whose cancers were "positively established to be beyond any hope" of surgical or radiotherapeutic cure or of life extension by chemotherapy. Laetrile proponents objected to these criteria: Ernst T. Krebs, Jr., said, "They're not going to raise the dead, of course." Orthodox researchers counter that the Laetrile study was what is known as a phase II clinical trial, and all phase II trials are done on

patients with advanced cancers that do not respond to any known therapy. Traditional cancer workers also point out that according to pro-Laetrile claims the majority of patients who use it are not much healthier: most turn to Laetrile as a last resort. Yet, their choice of that therapy, their search for it, and their belief in it may play a crucial role in their response.

Perhaps the most significant objection to the NCI trials was raised by Robert Bradford, a founder of the Committee for Freedom of Choice and president of American Biologics, a California company distributing a product called Amygatrile. He claims that the material NCI used was not the compound laevo-amygadalin, developed by Krebs, Jr., but a degraded, potentially toxic substance called racemic amygdalin. According to Bradford and to Greg Kaye, president of New Jersey's Cyto Metabolics, Inc., distributor of an amygdalin preparation called Laevolin, spectographic analysis showed that the substance used by the NCI did not meet the technical specifications for amygdalin described in the *Merck Index*, the standard reference work describing chemical compounds. The NCI claims the material it used was amygdalin.

According to Michael Culbert, Bradford is currently conducting his own nonrandomized clinical trials, but the NCI study results have had a devastating effect on the Laetrile business. Sales of Laetrile have been cut in half and several leading metabolic physicians no longer use it.

THE SHIFT IN THE LAETRILE CAMP

The arguments of Laetrile's supporters would be more convincing if their support were a little more wholehearted. However they seem to have retreated from total enthusiasm, and their current position regarding Laetrile is confusing at best.

Throughout the 1970s the emphasis in the Laetrile camp was on the substance amygdalin: although metabolic therapy was mentioned, amygdalin was its centerpiece. Today, however, Laetrile is regarded as only a part—and perhaps a small part—of metabolic therapy. This shift in emphasis leads Laetrile spokespeople to make misleading statements about it. For example, during a television debate between Charles Moertel, director of the Mayo Clinic and chief investigator in the Laetrile trials, and Harold Manner, Moertel said that Laetrile had been proven worthless. Manner answered,

"That's always been our position," then added, "when Laetrile is used alone."

Today all physicians who work with Laetrile agree that the diet is a vital component of the program. When I asked Dr. Manner why some patients respond to Laetrile and others don't, he emphasized the importance of the diet. "We do a very close follow-up with patients in Chicago, and it is not an easy program. You've got to take the individual and look at his mineral imbalance to begin with—we always do a hair analysis to make sure which minerals are high and low in the body; then we bring up the low ones and get rid of the high ones. Then we start them on a detoxification program. It's only after all that that we begin to start them on the therapy." The detoxification is coffee enemas every day for twenty-one days. There is a two-day fruit- and vegetable-juice fast, and then the diet. "And that's the tough part, the diet. And that's where the difference in success is. When you talk to a patient who doesn't seem to be getting it, he'll say, 'I'm cheating. I'm eating meat. I'm eating canned goods. I'm drinking coffee with sugar,' and so on. In other words he's not staying on the program."

If this is so, then how could the substance have worked so well when Krebs, Sr., used it alone on his patients? Michael Culbert now says that Krebs always used amygdalin in conjunction with beta-glucosidase, to make sure that the substance would be broken down, and with enzyme therapy. This therapeutic combination, however, is not described in any of the Laetrile books, including Culbert's.

Culbert also maintains that the material Krebs, Sr., used was more potent than anything available today. "That's why he got such good results with relatively low doses. We now look on him as more of an inventor, and like any inventor there were aspects of his work that he didn't want to reveal. We think he took some of his secrets to the grave with him." Yet in Culbert's own book he refers to Krebs, Sr., as "loving, kindly," and to his "... virtual obsession with bulldogging the cause and cure of cancer." It seems unlikely that a physician who was so eager to find a cancer cure would withhold potentially beneficial knowledge.

The uncertainty about what Krebs actually used has led to further confusion: At least three different formulations of amygdalin are currently on the market, each one claiming to be the most effective. None of this obfuscation inspires confidence.

However to accept the NCI's results as the end of the Laetrile story or to be made skeptical by the shifting position of pro-Laetrilists would mean ignoring well-documented, positive animal tests (performed by traditional as well as alternative researchers); dismissing the statements of doctors who see a difference between the physical condition of their patients with Laetrile and without it; and discounting the testimony of the many patients who believe it has helped them.

LAETRILE ANIMAL TESTS

For years representatives of the AMA, ACS, NCI, and FDA have stated that amygdalin has never shown any efficacy against any tumors in many animal tests. Laetrile supporters maintain that as most of these studies used transplanted tumors, amygdalin naturally would have had no effect. The Krebses had discovered that transplanted tumors did not have the same high concentration of the amygdalin-splitting beta-glucosidase as spontaneous tumors. However several orthodox animal tests *did* show anticancer activity.

Between 1972 and 1976 a series of experiments was performed by the late Dr. Kanematsu Sugiura at Sloan-Kettering. Eighty-nine years old at his death in 1979, Sugiura was one of the most respected researchers in his field, with a lifetime of cancer work behind him. Always an innovator, Sugiura investigated drug therapies, nutrition, and immune therapies years before others had thought of them. His amygdalin studies began in 1972, with negative results reported in mice with transplanted tumors. In the fall of 1972 Sugiura began a series of experiments on mice that developed spontaneous tumors. Although he reported good results with amygdalin in these experiments, Sloan-Kettering never submitted them for publication, claiming they were never duplicated. They became public in 1975, when writer Michael L. Culbert received an unsigned letter on Memorial Sloan-Kettering Cancer Center stationery, which stated "here are some of the results of Sloan-Kettering's continuing experiments with Laetrile. Due to political pressure these results are being suppressed. Please do your best to bring these important findings to the attention of the people."

"Krebs' theory is very promising, and Laetrile should be tested clinically to see if it really holds water."

Accompanying this note were copies of Sugiura's lab reports detailing the results of several experiments on two kinds of laboratory mice bred to develop spontaneous tumors at a certain age. In a total of seven experiments Sugiura found that while amygdalin did not destroy the spontaneous cancer in mice, it inhibited the growth of the tumors and significantly reduced the incidence of lung metastases.

In one experiment metastases appeared in 89 percent of the controls but only 11 percent of the amygdalin-treated mice; in a second there were metastases in 100 percent of the controls and only 22 percent of the treated mice; in a third 81 percent of the controls developed metastases while only 17 percent of the amygdalin-treated animals had metastases; in a series of three others an average of 86 percent of the controls had metastases, while only between 27 and 32 percent of the treated animals had metastases. In the last experiment lung metastases developed in 93 percent of the controls and 23 percent of the amygdalin-treated animals.

Significantly, Sugiura notes in his reports, "the general health and appearance of the amygdalin-treated animals was much better than those of the controls."

None of these experiments appeared in print until mounting public pressure caused the Sloan-Kettering Institute to publish its Laetrile report in March 1978. Prepublication copies were handed out to the press in June 1977. The report claims that Laetrile had been tested many times and, contrary to Sugiura's lab reports, as Dr. Lewis Thomas, former president and current chancellor of Memorial Sloan-Kettering Cancer Center, and an enormously influential orthodox voice, put it, "We have no evidence that Laetrile possesses any biological activity with respect to cancer, one way or the other."

These statements were strongly rebutted by *Second Opinion*, a militant yellow journal claiming to be the voice of the rank and file at Memorial Sloan-Kettering Cancer Center, and in a paper called *Special Report: Laetrile at Sloan-Kettering*. Unlike the journal the report is an impressively detailed thirty-thousand-word document that raises many questions about inconsistencies and inaccuracies in the Sloan-Kettering report. Although some of the points could be classified as nitpicking, most of them are major.

Most significant, *Special Report* points out that there were five experiments performed to confirm Sugiura's findings. Four of these

appeared to disprove Sugiura; however these experiments did not follow Sugiura's experimental design. In the fifth, a joint experiment done by Sugiura and researcher Dr. Franz Schmid, there was essential agreement between Sugiura and Schmid that there was a significantly lower percentage of metastases in the treated animals than in the controls: Schmid found by gross examination 80 percent metastases in the controls and 44 percent in the treated; Sugiura found 100 percent metastases in the controls and 38 percent in the treated; and the pathology department found 89 percent metastases in the controls and 31 percent in the treated. The Sloan-Kettering report states that in this experiment "... there is some discrepancy between individuals (F. S. and K. S.) in the evaluation of the number of mice with lung metastases," never pointing out the essential agreement between them, confirmed by the pathology department.

Special Report makes other troubling points as well: that Sloan-Kettering did not report all the experiments done with amygdalin, omitting several that had both positive and negative results; that Sloan-Kettering rejected the technique Sugiura used to determine the number of metastases in mice in his positive experiments while accepting the same techniques in negative experiments; that Sloan-Kettering claimed breast cancer in mice responded well to every chemotherapeutic agent that was successfully used in human breast cancers, making the failures of amygdalin seem even more significant, whereas breast cancer in mice is notoriously resistant to all chemotherapy. When the prestigious journal *The Sciences* pointed out this last, SKI's Dr. C. Chester Stock, Sugiura's superior and senior author of the report, told *The New York Times* that the statement "... should not have been used in the context of this report," and it was deleted from the final published version.

Other orthodox evidence that substantiates the Laetrile hypothesis also exists. Orthodox specialists have always claimed that Krebs's cyanide-beta-glucosidase-rhodanese hypothesis of amygdalin's action has never been proven to their satisfaction. However a series of studies performed at Sloan-Kettering Institute in 1973 and 1974 tested the action of prunasin, the compound formed when one sugar molecule is broken off amygdalin. Performed by Dr. Jerome Nisselbaum in conjunction with Drs. Lloyd Old and Morton Schwartz, these tests showed that prunasin was broken down by tumors and in the liver to release cyanide.

According to the Krebs theory, another substance, a painkiller called benzaldehyde, is also released when Laetrile is broken down. It is this that is believed to be responsible for the relief of pain reported by Laetrile users. A group of Japanese scientists performed experimental and clinical studies (published in *Cancer Treatment Reports* and mentioned in *Cancer Medicine*), showing that benzaldehyde also displays antitumor properties.

HOW TOXIC IS TOXIC?

One of the perennial establishment attacks has been against Laetrile's toxicity. In June of 1977 the death of a ten-month-old girl in Attica, New York, was attributed to her ingestion of the Laetrile her father was taking for his cancer. The baby was reported to have eaten an adult handful of tablets. The story was later denied by the father, and Laetrile proponents point out that if the baby had eaten the same number of aspirin, she would have died just as surely.

The New York Times of August 10, 1977, carried a report indicating there had been thirty-seven cases of poisoning and seventeen deaths attributable to Laetrile. When I traced the information back to Dr. Joseph Ross, a longtime Laetrile opponent, he told me that the thirty-seven cases of poisoning included the seventeen deaths; that not all of the toxic reactions were caused by Laetrile, but by other cyanogenic compounds as well; and that the cases were not all current, as the story implied, but had been uncovered by a search back through the Laetrile literature—the earliest reported case was in Germany in 1933 and most took place in the 1960s.

When I called the FDA for its definition of *toxic*, I was told there was none, since any substance taken in excessive amounts, even water, can be toxic. But many years of clinical experience by metabolic therapists and their patients prove that the incidence of Laetrile toxicity is minute. One New York physician who combines orthodox and nontoxic therapies in his practice, pointed out, "Certainly based upon what we think of as toxicity in chemotherapy, it [Laetrile] would be nontoxic." The NCI protocol for its Laetrile studies stated, "Toxicity of Laetrile in dosages currently employed for human cancer is assumed to be minimal." And the trials themselves confirmed this. Toxicity tests showed a slight rise in plasma thiocyanate levels when amygdalin was administered intravenously, sug-

gesting that amygdalin was being broken down in the body. There were, however, no toxic side effects. When Laetrile was taken orally, there was no clinical or laboratory evidence of toxic reaction.

People who take Laetrile should be under the care of a physician and should follow certain precautions, just as they would with any other medication. If they are taking Laetrile in the form of apricot kernels, they should never soak these in water, since it will liberate the cyanide. Patients who are taking Laetrile tablets must have their blood thiocyanate levels monitored, and if these levels begin to approach 8 to 10 mg per kilogram of body weight, Laetrile dosage should be reduced. However according to a spokesman at American Metabolics, normal blood levels of thiocyanate range from 5 to 6 mg per kilogram of body weight. Cancer patients generally have very low levels of thiocyanate—from 0 to 1 mg per kilogram of body weight—and so can tolerate an increase.

POSITIVE LAETRILE REPORTS FROM DOCTORS AND PATIENTS

It is fairly well established that the overwhelming percentage of cancer patients who follow the Laetrile program are not endangering their lives with cyanide. But are they getting better?

Although the experience of the physicians who use it varies, between 70 and 90 percent of the patients they see initially have metastasized cancer. Usually their orthodox oncologists have told them that there was no more traditional cancer medicine could offer. Yet more than 90 percent of these cancer patients enjoy some positive response. In many cases this is temporary palliation. In a small percentage of patients, even those whose disease is far advanced, there is complete control of cancer. The metabolic physicians I spoke to all stressed that Laetrile is *not* a cure for cancer, but all agreed that metabolic therapy, with Laetrile, was valuable in any cancer program, even as an adjunct to orthodox therapy.

Dr. Hans Nieper, an internationally known metabolic physician from Hanover, Germany, told me that once people have survived about eighteen months on metabolic therapy, their life expectancy tends to become normal. "By month eighteen the decision has come whether or not the host will eventually dominate the disease." He sees this eighteen-month survival pattern, what he calls a "quasi-

cure rate," in 75 to 80 percent of patients who come to him early, in 42 to 45 percent of those who have been diagnosed as incurable but who are ambulatory, and in 20 percent of those who are so ill that they require hospitalization when they see him.

Dr. Hans Moolenburgh, a Dutch physician in Haarlem, the Netherlands, was the first doctor to use Laetrile there and has used it for the past six years. He told me that some of his patients feel better after two weeks. "Sometimes they feel worse right away because of the detoxification, but within one to two months most of them feel better."

Dr. Douglas Brodie of Tahoe City, California, reported that "The Laetrile and enzymes and vitamin A, and so forth, virtually one hundred percent of the time make people feel better. Secondly, they definitely enable the patient to tolerate chemotherapy, radiation, and so forth—those who happen to be getting metabolic therapy plus any one or more of the other orthodox modes of therapy. They tolerate these rather toxic assaults on the body much better having had a course of Laetrile and enzymes and vitamin A. They have less suppression of the bone marrow and less damage."

One physician from northern New York State who asked that I not use his name told me that some 15 to 25 percent of the patients he sees improve. "It seems that those that respond respond quite well, and those that don't—apparently their defense mechanism has already been completely destroyed by the disease or the treatment or both—some of those don't respond at all." Dr. Norman Saliba of Gallatin, Tennessee, who recently retired from his medical practice, said, "The patients that do improve have an almost immediate better feeling, better appetite, pick up in general well-being."

Dr. Michael Schachter of Nyack, New York, and Dr. Donald Cole, a Long Island, New York, surgeon who has used Laetrile and diet as part of therapies that may also include surgery, radiation, and low-dose chemotherapy, confirmed that after many of their patients began Laetrile, they reported their pain was gone, they felt better, their appetites returned, and they wanted to continue. "That was why when they left Mexico, they insisted on getting it—smuggling or however they did it," Cole told me. "To discount all of that is, I think, a little hard. I think that the Laetrile situation has become very emotionally involved where there are a lot of things playing other than a scientific attitude."

Reports of feeling better always include these elements—relief

of pain, gain in strength, increase in appetite, feelings of well-being. Such reports are almost always discounted by orthodox medicine as "subjective" evidence—as if how the patient feels, if it can't be scientifically documented, is unimportant. Of course, as Dr. Stewart M. Jones, one of California's metabolic specialists, pointed out, "These are not really subjective. When a patient is feeling better, you can measure that objectively by plotting the frequency with which he requires pain medication. You can also test his strength—that's objective. You can also weigh him and do the skin fold test to see how much he's gaining and to be sure it's not just fat. You can also measure what he eats, which is an objective way of seeing that his appetite has increased, if it has. So this batch of so-called subjective things are not subjective at all. They're all objective; they can be measured quantitatively."

Each of these metabolic specialists had remarkable stories to tell me about patients who were surviving well despite totally negative prognoses. When I visited Holland, Dr. Hans Moolenburgh introduced me to several of his successful patients. Although he received his medical degree from the traditional University of Leyden, Moolenburgh has always used herbs, diet, and homeopathic remedies as part of his twenty-five-year practice.

"I've been a funny sort of chap from the beginning," Moolenburgh grinned. As a student he was introduced to an anticancer substance derived from the mistletoe plant. Known as Iscador, the material is used primarily at the Lukas Klinik in Arlesheim, Switzerland. Although Iscador has never been accepted by the medical establishment, at the end of 1979 researchers at the University of Southern California confirmed that mistletoe stimulates the immune system.

Moolenburgh had always treated the four or five cancer patients in his practice with Iscador and diet, and continues to use it along with Laetrile. Since he added Laetrile and became part of a group of Dutch doctors who specialize in nontoxic cancer therapies, the average number of cancer patients in his practice has grown to fifty. The great percentage of these patients come to him when their conditions are hopeless. "I have a reputation as the man you go to when everything is lost. I have had that reputation for a long time." Patients come to see him from all over the Netherlands, led by the underground grapevine.

I met a woman I'll call Mrs. Prater (the names of Dr. Moolen-

burgh's patients have been changed, at his request) in Moolenburgh's sitting room/office. She was not a long-term survivor when I met her in 1978, as her carcinoma of the stomach was discovered in 1977. She had what is called a linitus plastica, a carcinoma that infiltrates the stomach wall and grows along the lining of the stomach, inexorably squeezing it shut. One hospital offered Mrs. Prater surgery, which she refused. At a cancer center physicians told her she had been right to refuse the operation, that it would have killed her. But they told her that nothing could be done.

Mrs. Prater had accepted that she was going to die, but, she told me firmly, in her clear voice, "I was not going to bed. I want to see my garden and I want to make it for my children." When I met her, she was concerned about a sick daughter, also a cancer patient, telling me, "I feel like Odysseus on a raft, swept by waves, but I keep to the raft." Moolenburgh prescribed Laetrile for her, and the diet. In the fall of 1978 Mrs. Prater had had exploratory surgery for an obstruction, revealing that her stomach cancer was completely gone. However she died of peritonitis a few years later. An autopsy found no trace of cancer in her stomach.

From the American therapists I heard many stories illustrating the whole range of Laetrile's good effects: patients with three- or four-month prognoses who lived comfortably for four or five years before they finally died; patients with early cancers who continue to take their amygdalin and are still alive today; and those rare hopeless cases who lead relatively normal lives even with cancer throughout their bodies. Tom Connolly of Visalia, California, who testified at the Laetrile trial of Dr. Stewart M. Jones, is one such patient. On March 23, 1970, he was hospitalized for an undiagnosed chest problem. As he testified, "On April first, Dr. Alan Smith opened me up from the throat to my navel, found me inoperable, and closed me up again. He told my wife I had three to six months to live and suggested radiation to relieve the pain."

Connolly had, Jones told me, anaplastic small cell carcinoma of the lung, a highly malignant lung cancer, inoperable in his case because it involved the aorta, too extensive and too badly placed to respond to chemotherapy or radiation. To relieve his pain Connolly did have a total of 4,100 rads of radiation over twenty treatments. As soon as he was released from the hospital after his surgery, before he completed his radiation, his wife put him on a low-protein, high vegetable and juice diet, including apricot seeds. "I fought her diet

because I knew I was going to die anyway, and I did not feel like eating," he testified. But his wife never faltered and continued to force the diet on him.

In March 1971 Dr. Byron Krebs, a physician brother of Ernst Krebs, Jr., gave Connolly a one-vial injection of amygdalin, and Connolly's pain subsided. But Krebs's office was raided, so in June 1971 Connolly began to see Dr. John Richardson, who gave him eighteen or twenty Laetrile injections. Connolly had been taking ten Percodan tablets a day for his pain but within five weeks he was able to stop them completely. He had to stop seeing Richardson after *his* office was raided in June 1972, and began to see Jones in September 1973. Even though his cancer spread to his bones, in 1975, in further testimony given at Jones's trial, he said, "I am in better shape today than I have been for the past ten years. I do my yard work and play golf, and I still smoke about a pack of cigarettes a day."

Jones told me in 1978, "He knows that his cancer has spread and is probably continuing to spread, but he's not having any pain or weakness or loss of weight, or appetite. He knows that if he ever quits his nutritional therapy, he'll soon be dead from his cancer. He's healthy, feeling well, and very lumpy. But he knows that those lumps are not going to be inert as far as doing him harm if he doesn't stay on his nutritional therapy." In 1971 the average life span after diagnosis of this kind of cancer was fifty-seven days.

Glen Rutherford is a man whose early cancer was completely controlled by metabolic therapy. Today Rutherford vigorously stumps his native state of Kansas, expounding the Laetrile gospel to anyone who will listen. When I first spoke to him in 1977 and asked him how old he was, he answered in his hearty, cheerful voice, "Ma'am, I'm sixty years young." He did not feel quite so exuberant back in 1969, when he began a bout of mysterious bleeding from his rectum. His doctor diagnosed his condition as diverticulosis and gave him antibiotics which controlled the bleeding for about six or seven months.

When the bleeding started again, Rutherford went back to his physician, who didn't know what to do. Rutherford then consulted gastrointestinal specialists but their X rays revealed nothing. Some eighteen months after the bleeding began, a sigmoidoscopic exam finally revealed a large polyp in Rutherford's colon, completely blocking normal evacuation.

A biopsy revealed the polyp to be malignant and Rutherford was told that the only possible treatment was extensive surgery: removal of his anus, rectum, and part of his lower colon. Rutherford was horrified and pleaded with his doctors for an alternative. He was told there was none.

Rutherford began talking with friends, desperately seeking a way to avoid the surgery, and learned of a neighbor who had been stricken with cancer that her doctors considered terminal. But she had gone to Mexico for Laetrile treatments and was still alive. Willing to grasp at any straw to save his body, Rutherford and his wife left for Contreras's clinic in December 1971.

"My wife and I were both skeptical," Rutherford told me. "We thought we were going to be running into a little hole in the wall. Instead we found a modern, up-to-date clinic that would cost between three and three and a half million dollars to duplicate anywhere in the United States. Down the road was a hospital, equally clean and modern. There were twelve M.D.'s, trained in some of the finest medical centers in the world. They all feel that there has to be a better way to treat cancer than that of the medical profession."

In the hospital he received intravenous three-gram shots of Laetrile six days a week. He was given the enzymes and was put on the diet, again consisting largely of raw foods and vegetables and fruit juices. After five days his bleeding had stopped, and by the seventeenth day his polyp, originally the size of an orange, had shrunk to the size of a grape and surgeons in Mexico were able to remove it by simple cauterization. He has been cancer free since that time.

It's not only long-term survivors who praise Laetrile therapy. Even the families of cancer patients who died while they were on the Laetrile program were grateful for its palliative effect. One woman whose stepmother died of breast cancer told me, "Laetrile was the best. It eased her pain." A California man told me that when his father began Laetrile treatment, "He was so far gone it would have taken a miracle to save him. But he had been in terrible pain when he started it and he was comfortable until the end." Marcia Laurence endured seven years of orthodox therapy that failed to check the spread of her breast cancer. She improved dramatically after she went to see Hans Nieper for treatment. She died a year and a half after beginning treatment, but her husband Robert told me that he credited Laetrile with the extra time. "Initially it gave her a great

lift, but we weren't able to keep the cancer under control. Yes, I would use it again, but this time I would use it earlier."

Perhaps the most highly publicized Laetrile patient has been Chad Green, the Massachusetts boy with leukemia. His story summarizes and symbolizes the anguish faced by parents of children who have cancer.

Chad's mother and father, Gerald and Diana Green, believed that they, not the medical profession, had the right to decide what was the proper treatment for their son, whose acute lymphocytic leukemia (ALL) was discovered in August 1977, when he was twenty months old. As we have seen, ALL is one disease for which chemotherapy has saved many lives. Once a swift death sentence, today orthodox medicine claims five-year survivals for nearly 60 percent of children stricken with this type of cancer.

However the drugs used in this therapy, in addition to the usual transient effects of nausea, vomiting, low blood count, hair loss, constipation, neuromuscular difficulties, and general toxicity, have more serious dangers as well. These include irreversible liver damage, kidney damage, pancreas inflammation, unconsciousness, and potentially fatal allergic reactions. The warning that accompanies methotrexate, one of the drugs used to treat ALL, reads in part, "Because of the possibility of fatal or severe toxic reactions, the patient should be fully informed by the physician of the risks involved and should be under his constant supervision." Methotrexate is suggested for use with young people "only with extreme caution." Although the Greens initially allowed Chad to have chemotherapy, they had always been frightened by its potential to harm. To protect him, in addition to drugs, they soon began to treat Chad with metabolic therapy.

In November 1977, after Chad had been on chemotherapy administered by Massachusetts General Hospital for a few weeks, Diana Green stopped giving him the oral chemotherapy he had been getting at home. In December, January, and February the Greens refused to allow Chad to have any more chemotherapy injections, and in February Dr. John J. Truman, the physician in charge of the case, found that Chad had had a relapse. Dr. Truman petitioned the Plymouth County Probate Court to appoint a temporary guardian for the boy, and one bleak February afternoon, two guardians, accompanied by the police, came to the Greens' door to take Chad and

his mother to Massachusetts General to resume his chemotherapy.

Chad was allowed to return home and the Greens petitioned the court to let them take Chad off chemotherapy, but were ordered to allow a nurse from Massachusetts General come to their home several times a week to give Chad injections and oral doses of vincristine, prednisone, methotrexate, the then experimental drug L-asparaginase, and 6-mercaptopurine. If the Greens refused to allow Chad to be treated with these drugs, they could have lost their son to a foster home. Another court order prevented the Greens from seeing any physician other than Dr. Truman.

Throughout 1978 Chad was on both chemotherapy and metabolic therapy and was doing well on the combined regime. Even Dr. Truman said that the boy was energetic and showed few side effects from his chemotherapy (although he dismissed Diana Green's conviction that metabolic therapy was responsible for this). In January 1979 the Greens were finally given the opportunity to appeal the court order and to present expert pro-Laetrile evidence and testimony in court. Despite Chad's success with the two therapies, in a trial closed to the press and the public, Massachusetts Judge Guy Volterra ruled that not only could Chad no longer be given Laetrile, but also that a dietitian live with the Greens to make sure Chad didn't have certain vitamins, minerals, and certain foods. The hospital was to supply a diet for him. The Greens fled to Mexico with Chad rather than comply with that court order.

At Dr. Contreras's clinic Chad once again took chemotherapy and the metabolic therapy, including Laetrile. For a time his cancer was under control and his parents stopped the chemotherapy. But Chad longed to go back to Massachusetts. He and his parents had been living in the big white house of Gerry Green's father and step-mother, and Chad was homesick for the grandparents he loved. During their exile the Greens appeared on *The Phil Donahue Show* and the audience cheered when Diana announced, "I think that an American should have the right to go to fifty doctors and choose the one he feels is most reliable and feels the most comfortable with. I will not go back to the United States until I have that choice." But even after Chad was told his cancer was in remission, he could not go back to Massachusetts. His parents faced arrest for defying the court order if they ever returned.

Chad died on October 12, 1979, less than two months before he

would have been four years old. According to pathologist Frank Raasch, the physician who performed the autopsy, there was no obvious cause of death: Chad did not die of his leukemia.

From reports of the people closest to him, emotional factors played a large part in Chad's death. His grandmother, Vera Green, told me that Chad gave up the fight. Reporter Peter Barry Chowka, in *New Age* magazine, quotes Diana Green as saying, "I don't know if Chad was consciously choosing to die, but he certainly chose to reject everything that would sustain physical life." Behavioral psychologist Frank Sullivan, then director of the Psychology Department at the Del Mar Medical Center, who worked with Chad, saw the boy's emotional state improve after an initial period of unhappiness in Mexico, but saw the boy fall back into his earlier unhappy behavior in the last weeks of his life. Sullivan told Chowka that "Being away from his grandparents in Massachusetts—that was on Chad's mind the entire time." Sullivan believed that Chad could have died what he termed a "psychologic or neurogenic" death, brought on by his longing to go home.

Although Chad's death was accompanied by some bitterness between the Greens and Dr. Contreras—he maintains that he told the Greens not to stop Chad's chemotherapy; they hold that at the time he supported their decision—Gerald and Diana continued to promote the Laetrile cause after Chad's death.

Many therapists praise it as well, even for patients who die. Dr. Norman Saliba said to me, "If I can take a patient that I know is going to die three months from now, and give him a brighter outlook on life and let him *live* instead of just existing for a few days, then I think I will have accomplished quite a bit."

IS IT LAETRILE OR IS IT THE DIET?

One problem in judging Laetrile is to separate its action from the rest of the metabolic therapy. Some metabolic physicians told me that they were more impressed with the action of the diet than they were with the Laetrile, but that Laetrile on its own did provide some palliation. Dr. Saliba told me, "Almost all the patients have had at least a temporary improvement. Now, a lot of people would say that this is psychological, but I don't think it is. I've seen it drop in those patients that have been given medication other than amygdalin. I've

used placebo injections and I've noticed an immediate drop in the patient's well-being."

In a series of animal experiments using the complete metabolic therapy, in part designed to determine the role of each element, Laetrile researcher Dr. Harold Manner found that he got his best results when he used *all* parts of the therapy. His studies also offer further evidence supporting Krebs's hypothesis of amygdalin's mode of action. In these studies he has seen complete shrinkage of breast tumors in between 76 and 90 percent of the treated mice.

When Manner first became intrigued by amygdalin in the mid-1970s, he used it on mice with transplanted tumors and was unsuccessful. He wondered how physicians could be getting good results in human cancers when amygdalin failed to affect mice.

He and his graduate students studied the problem and came to two conclusions. First, they discovered, as Krebs had, that transplanted tumors were biochemically different from spontaneous cancers, without the high concentration of beta-glucosidase necessary to split amygdalin. Manner then tested mice that were bred to develop cancer spontaneously, but he found that amygdalin alone had no effect on their tumors either. Then Manner visited the cancer centers where Laetrile is used and discovered the rest of the metabolic therapy.

When he returned to his laboratory, he began a series of experiments in mice, using a good diet, vitamin A in the form of Ae-Mulsin, the proteolytic enzymes called Wobe-Mugos developed by Dr. Karl Ransberger and the late Dr. Max Wolf, and Laetrile. Although vitamin C was part of the metabolic therapies, he omitted it, as mice produce their own vitamin C.

In the first set of these experiments, completed in the fall of 1977, Manner completely eliminated tumors in 90 percent of the mice. The remaining 10 percent were in various stages of partial remission. In his latest series of experiments a group of 550 mice was broken up into smaller groups of 50 mice each and each group was given some combination of the amygdalin, vitamin A, and enzymes. According to Manner's report of this experiment, "The only animals which exhibited total regression of the mammary adenocarcinoma were those receiving enzymes, alone or in combination with vitamin A and/or amygdalin. Neither vitamin A nor amygdalin administered alone or in combination with one another evidenced any ob-

servable decrease in tumor size. When amygdalin or vitamin A were used in conjunction with the enzyme complex, no significant difference in tumor regression was seen from that observed in the animals with enzyme alone. However those animals receiving all three components—amygdalin, vitamin A, and the enzyme complex—exhibited a significant increase in tumor regression compared to any of the other groups." In these experiments Dr. Manner achieved a total regression rate of 76 percent, lower than the percentage achieved in the earlier experiments because the tumors of these mice were larger to begin with. The medical establishment has never challenged these straightforward studies, but simply ignored them.

Manner explains the role of the three elements as follows: The cancer cell hides itself from attackers, whether the immune system or Laetrile, by shielding itself with a fibrin coat. This element of the theory is widely accepted as proven by orthodox researchers. The enzymes, administered either by injection directly into the tumor, or as a suppository or retention enema, digest this fibrin coat. This opens the cells to destruction both by the cyanide in the Laetrile and by the body's immune system.

In the Laetrile program proteolytic enzymes are also taken orally for this purpose. According to classic biology, enzymes taken orally are broken down in the intestinal tract and could not possibly affect tumor cells. However, there is evidence from researcher Charles Liebow and Stephen S. Rothman, detailed in *Science* magazine in 1975, that pancreatic enzymes can be absorbed intact by the small intestine, allowing them to circulate through the bloodstream. The late physician Max Wolf and biochemist Karl Ransberger report in their book, *Enzyme Therapy*, that oral ingestion of enzymes increases the ability of enzymes already in the bloodstream to break down protein fiber in the blood.

Digesting the fibrin coat of cancer cells opens them to destruction both by the cyanide in the Laetrile and by the body's immune system (see "Orthodox Immunotherapy," page 208). According to one researcher the cyanide increases the effectiveness of the proteolytic enzymes. Vitamin A boosts the general immune competence of the body.

I asked Dr. Manner how he could explain Sugiura's striking results on metastases using amygdalin alone and he said, "With our electron microscope studies we find that fibrin coat around tumors,

and as long as that's around there's nothing can get to that tumor. But a metastasizing cell in the bloodstream is bare and the Laetrile can work on it right away. So it would probably have a very important effect."

Several alternative researchers claim that Laetrile's action could be explained by other mechanisms besides the one Krebs proposed. A 1980 study of amygdalin and diabetes at Rutgers quite accidentally revealed another possible mode of action. This study shows amygdalin to be a scavenger for a dangerous and highly reactive free radical called the hydroxyl radical. Although the Rutgers researchers emphasize that their data were not related to amygdalin's possible therapeutic efficiency in cancer, the hydroxyl radical is involved in metastasis, and one possible way that amygdalin could prevent metastases is by combining with this radical.

The Krebs hypothesis is the most widely accepted by the unorthodox underground. Manner further confirmed Krebs's theory when he analyzed tissues of mice with and without tumors for beta-glucosidase and rhodanese. Beta-glucosidase was present only in trace amounts in brain and muscle tissue, in higher amounts in the liver, and in a significantly higher amount in tumor tissue. The protective enzyme rhodanese was present in significant amounts in brain and muscle tissue, very high amounts in the liver, and very low quantities in the tumor.

Manner also tested the urine of mice injected with amygdalin for the presence of sodium thiocyanate and hippuric acid—the end products that would appear if the Krebs hypothesis were correct. He found that these substances were indeed present in the urine, and that as he increased the amygdalin, the amounts of thiocyanate and hippuric acid increased as well, confirming the Krebs hypothesis.

EVALUATING LAETRILE'S ROLE

After examining its history, contemporary controversy, studies on both sides, and reports of physicians and patients, it seems that Laetrile *does* have a role to play in cancer therapy, but that the nature of its action and its significance remain elusive. However the most compelling and convincing stories still come from patients, and patients rarely single out Laetrile as the most important factor in

metabolic therapy. They see it as one part of a total program whose other elements include the diet, supplements, and the will to fight.

The diet offered by metabolic physicians in the United States differs slightly from the one suggested by the Centro Médico del Mar. Both include fresh, whole, unprocessed foods, emphasizing whole grain cereals and breads, seeds, raw or lightly cooked vegetables, sprouts, fresh fruits, fresh raw nuts, fish, herb teas, fresh fruit and vegetable juices, homemade soups, and cold-pressed vegetable oils. The strict Mexican diet eliminates dairy products and eggs but allows limited quantities of lean fowl, veal, and beef and also some raw sugar. The diet supplied by Harold Manner's Metabolic Research Foundation allows limited quantities of dairy products in the form of raw milk, yogurt, butter, buttermilk, nonfat cottage cheese or other white cheese, one poached or boiled egg a day. This diet eliminates all red meats. Both diets forbid all processed foods, white sugar, white flour, salt, fried foods, alcohol, pepper, and hot spices.

Patients devise their own variations as well.

"You know, of course, that the diet is the most important thing," sixty-year-old Charles Humpley of Edwardsburgh, Michigan, said to me. In May 1975, weak and in pain, he was told by surgeons in Chicago's Holy Cross Hospital that his body was eaten up with cancer that had spread from his prostate to his bladder and into his bones. "They were going to operate on me—until they saw my X rays," Humpley said dryly. His physician, Dr. Una Voskis, sent him to Minnesota's prestigious Mayo Clinic for more than a week of tests. "They said to me, 'It's too late for you.' Now I'm not afraid of dying. I've been in a lot of tight places in my life and death holds no fear for me. But I asked them if they thought I had two years. They didn't say anything. 'Well.' I laughed. 'How about one year?' They just hemmed and hawed and finally said they couldn't say.

"So I went home. Now, to this day I don't understand it, but somehow I was led to eliminate all foods but natural raw foods. I didn't want any milk or meat, just raw fruits and vegetables. At first I took nothing but juices. Well, you know, after a couple of months I felt better. The pains were going; I could sleep well at night. Four months later I got an intestinal flu and had to eat some cooked food. Within a month I was back on store-bought food. I felt real bad, and after six weeks the pains started to come back.

"I knew nothing about anything then. But when I started to feel

and look bad again I went to a health food store." As soon as Humbley walked in, his eyes sunken, face pinched, his color gray, the woman behind the counter lifted her head and looked him in the eye.

"Are you going to the meeting tonight?" she asked.

"What meeting?"

"The cancer meeting."

"Well, you can bet I was there," Humbley told me enthusiastically. "And it was there that I found out about Laetrile. These people had some of the injectable Laetrile and I asked my daughter, who is a nurse, if she would show me how to inject it, but she was so against the idea that she called it quackery and refused." Humbley's daughter sat by his bed in the hospital and cried for her father, but she was so afraid that Laetrile would harm him that she couldn't bring herself to give it to him.

"So I did it myself," Humbley said matter-of-factly. "Boy, I really ruined my arms trying to get that stuff into me. But after a week of ten cc every night I felt wonderful." (Despite Humbley's experience, patients should not attempt to treat themselves with Laetrile.)

When Dr. Voskis wanted him to go back to the hospital for more tests, Humbley went to Dr. Contreras instead, where he was treated with Laetrile, enzymes, and the diet. He responded beautifully to that treatment and for six years had his cancer under control. He vigorously championed the Laetrile cause in letters to his congressman and wrote a sixty-four-page booklet called *A Community Service*. It deals with nutrition, Laetrile, and his own experiences. He published it himself and distributed it free to neighboring towns. Sadly, his cancer recurred. I spoke to him early in 1981, quite coincidentally calling him on the day he was planning to leave his home and take off with his brother in his camper for Mexico, to see if Dr. Contreras could do anything for him. He was in great pain and fearful that he did not have much more time.

I talked again to Dr. Voskis, who told me, "I am certain it was the diet that kept him alive. But his heart is broken and he no longer wants to live because his wife left him."

Seventy-year-old Verne Myers, a retired physicist and engineer, is a cancer survivor alive today because of Laetrile and a complete change of diet. For seven or eight years Verne had been seeing a private physician for an undiagnosed prostate problem. At each visit his doctor told him he was fine and to come back in six months. After

Verne retired from his job, he became eligible for treatment under the West Coast's Kaiser Permanente health plan, and in February 1973 Dr. John A. Benjamin of the Southern California Permanente Medical Group, disturbed by what he found during Verne's first examination, told Verne he wanted to take a biopsy of his prostate. X rays and the biopsy revealed inoperable prostate cancer and Dr. Benjamin recommended that Verne go for radiation therapy.

"They thought it was such a good example of cancer," Verne told me with a chuckle, "that they took half a dozen samples out for all their friends who were researching cancer."

Verne was able to laugh when he first spoke to me, five years after that diagnosis, but at the time, his major reaction was shock. However, he immediately found an answer that felt right to him. "Just about that time somebody gave me a magazine article about Dr. Contreras. I was just lucky. I've seen a lot of relatives and friends go that other conventional route, and I'd just as soon have nothing to do with that. I thought, 'Well what have I got to lose?' and I went on down to Tijuana. So here I am today—five years later, and feeling terrific!"

When Verne got to Tijuana, he had lost a lot of weight, looked pallid, but was not in too much pain. "Some, but having seen some of those other patients down there, I didn't have the pain that they had." Contreras began giving Verne Laetrile injections and gave him a copy of the diet.

Before his trip to Mexico, Verne told me with a slightly embarrassed groan, "I was a meat and potatoes boy exclusively. Not many fresh vegetables. I thought canned vegetables were just as good. I was pretty ignorant." He didn't stay that way for long. "My whole diet has changed. I spent the last six years studying nutrition, and everything I can find on prostate cancer."

Verne's diet today is simple and basic: a whole grain breakfast of millet and flax, a salad of organically grown fresh vegetables for lunch, fruit in the evening. He also takes enzymes and three grams of Laetrile a day. When I asked him if he took vitamins, he chuckled. "Oh, I'll say. I must take thirty or forty different ones a day."

After the NCI trials public demand for Laetrile died down considerably since its heyday in the mid-1970s. Cancer patients may be less enthusiastic and eager to seek it out, but despite the NCI results

metabolic physicians who use it and researchers who study it are more convinced than ever of the effectiveness of the entire metabolic program. In June of 1982 Dr. Harold Manner had just completed a journal article comparing the protocol used at the cancer centers participating in NCI's study with metabolic therapy as it is practiced in the United States. Said one spokesman of the Committee for Freedom of Choice in Cancer Therapy, "We're just regrouping at the moment, gathering steam for the next assault."

WILLIAM DONALD KELLEY, D.D.S.

In the summer of 1980 newspaper headlines announced that Steve McQueen, suffering from metastasized mesothelioma, a rare, untreatable, and nearly always fatal form of lung cancer, was receiving a nutritional cancer therapy at the Plaza Santa Maria Hospital, an unorthodox clinic on the California coast, just north of Ensenada. The newspaper stories emphasized the unusual and seemingly outrageous aspects of this treatment: coffee enemas, nasal flushes with vitamin C, a raw food diet.

When McQueen arrived at the Plaza on July 31, he weighed a skeletal one hundred pounds. One lung was completely covered by tumor, metastatic tumors bloated his stomach and were beginning to appear on his neck, and he was taking twenty to thirty grains of codeine a day. He stayed at the Plaza until early in November when he entered a hospital in Juárez, Mexico, for surgery to remove tumors from his stomach. Fourteen hours after surgery he died of a heart attack.

Spokesmen for conventional cancer medicine claimed that his death represented an enormous setback for nutritional therapies, but according to William Donald Kelley, D.D.S., the controversial dentist and orthodontist who designed and masterminded McQueen's nutritional treatment, the opposite was true. McQueen did not stick to the difficult program 100 percent. Kelley said, "He didn't want to take his coffee enemas and he smoked his cigars." Other observers reported that he indulged in Häagen-Dazs ice cream binges—but even so, Kelley maintained, "Despite that we were still doing quite well." After eight weeks on the program McQueen's

tumors had stopped growing, he no longer needed painkillers, and he had gained weight. Although McQueen was still gravely ill, his doctors at Plaza Santa Maria felt there was some reason for optimism.

According to Kelley the decision to have surgery was made not because McQueen was in pain, as the media claimed, but because his tumors were putting pressure on the tubes running from kidney to bladder, making urination difficult. Also the masses were so large that Kelley was afraid of their potential toxicity.

"I was standing within eighteen inches of him when he was having surgery," Kelley told me. "There were three large tumors, weighing about three pounds apiece. One tumor was attached about one inch at the base of the liver and the surgeon just cut off a piece about a quarter of an inch by one inch from the edge of the liver and cut the tumor out. The other two tumors—the surgeon just lifted them out. They were already dead."

"McQueen went through surgery quite well, but they were afraid that he might have internal hemorrhaging, which was ridiculous. There wasn't any reason for him to bleed. The tumors were set out and there was no surgery as far as dissecting the tumor out of the gut. They just actually lifted out except for that one inch on the liver. I advised the hospital not to do anything, but they just wanted to be overcautious and gave him a blood clotter. And it was a blood clot that killed him."

McQueen's death set off a furor between orthodox and unorthodox cancer medicine and within the alternative field. One alternative therapist had told Kelley he was crazy even to consider treating McQueen. Kelley responded, "Well, he's just people, like anybody else." Despite this disarming Texas affability Kelley knew quite well the risk he was taking in treating McQueen. But Kelley is no stranger to risk. Long included on the American Cancer Society's Unproven Methods list, he aroused the ire of the Texas Board of Medical Examiners in 1969 when he wrote and published an inspirational forty-six-page booklet called *One Answer to Cancer*. This work set down the nutritional advice he had been giving to cancer patients since the mid sixties when, he maintains, he healed himself of metastasized pancreatic cancer. The board had him arrested for practicing medicine without a license and Kelley spent a day in jail. He was also enjoined from distributing his own book, which has since sold about

a quarter of a million copies through the International Association of Cancer Victims and Friends. In 1976 the Texas State Dental Board suspended his license to practice dentistry for five years, precipitating his move from Grapevine to Winthrop, Washington, now his home base.

Since the early 1970s Kelley's theories have evolved into a complex, multifaceted program. Patients answer a three-thousand-question nutritional survey, which is analyzed by computer. This determines where each patient belongs in an ingenious classification system that Kelley calls metabolic typing. He refers to his approach as nonspecific metabolic therapy because although it is most specific in terms of patient needs, he uses it to treat a great variety of chronic and degenerative diseases. Since he began offering nutritional advice, he estimates that his approach has been used by thirty thousand patients with diseases ranging from multiple sclerosis to schizophrenia; some forty-four hundred cancer patients, nearly all with late disease, have followed his program.

Kelley no longer dispenses medical advice directly. All patients who want to follow his program must be under the care of an M.D. and Kelley has built a small empire to facilitate patient access to his ideas. This includes the Nutritional Academy, a professional organization; a lay organization called the International Health Institute, composed of four hundred metabolic technicians who help patients to follow the program; the Computer Health Service, which analyzes the questionnaires; and the Health News Network, which publishes the quarterly slick *Journal of Health Science*.

Kelley's attitudes toward medicine and health have their roots in his childhood observations of country doctors in a small, 1920s Kansas town. He was fascinated by the way these doctors cared for their patients and the commonsense advice they gave. In those days, of course, medicine didn't have today's arsenal of drugs and technological techniques, so there was little a physician could offer other than his presence, advice, and bedside manner. However Kelley saw these doctors get remarkable results with the unsophisticated tools at their command.

Eager to learn more about healing, he talked his local Red Cross chapter into letting him take all their first aid courses before he was old enough to qualify. During the Second World War he was in the Navy Medical Corps and after the war enrolled in a premed program

in college, majoring in biochemistry. He never went to medical school, however, and now is glad he didn't. "The brainwashing involved in such training would probably have kept me from recognizing the value of the 'new' nutritional concepts that I'm involved with today," he said in an interview in *The Mother Earth News*.

Kelley's dentist brother persuaded him to apply to dental school, and in 1949 he took an aptitude test at Baylor University from which he went on to receive his D.D.S.

During dental school the class was required to take a course in nutrition, which most of his fellow students regarded with skepticism, but Kelley paid attention. "I fell for the nutrition idea hook, line, and sinker. I've always been more interested in causes than in remedies, and the nutritionist explained how poor diets could actually *cause* cavities." Kelley began to study nutrition on his own.

He opened his dental office in 1954, and during the next two years finished course work for a doctorate in education under a HEW postdoctoral fellowship. In 1958 he began to practice orthodontics. He was shocked at the number of children who came to see him with crooked teeth and was appalled at the common practice of orthodontists, which was to tell parents that their children's crooked teeth were inherited. Kelley discovered the work of dentist Weston A. Price, author of the classic *Nutrition and Physical Degeneration*, in which Price describes, with photographs, the healthy mouths and facial bones of primitive societies and then shows how their teeth, gums, and jaws degenerate in generations born after the addition of sugar and other refined foods to their diets.

When Kelley's daughter developed allergies and asthma that didn't respond to standard allergy treatments, he knew enough to devise a nutritional program that helped her. In 1962 he began to be plagued by a series of seemingly unrelated physical and emotional disorders—worsening vision, lower back pain, fatigue, depression, gray brittle hair, and hernia. He now sees these as precancerous signs, but then he continually treated them symptomatically. His doctors could find nothing wrong until 1964, when, according to Kelley, a physician palpated malignancies on his pancreas and liver and told Kelley's wife that her husband had only two months to live.

There is no biopsy verification for his cancer: although Kelley's internist recommended surgery, the surgeon felt Kelley wouldn't live through the operation. Depressed, feeling that death was immi-

ment, Kelley somehow found the strength to begin to fight. His first priority was to find food that he could eat without becoming violently sick. He studied the medical literature, researched the work of alternative cancer therapists, and gradually worked out a program that made him feel better.

He had already been advising people who had heard about his success in treating his daughter's allergies and asthma. After he recovered, he began to share his procedures with other cancer patients, and saw that some who used his program also recovered. As the years went by, he found himself recommending dietary changes to increasing numbers of cancer sufferers. He kept refining his approach and wrote about it in *One Answer to Cancer*.

At first, as the title *One Answer to Cancer* implies, Kelley believed that everyone needed the same nutritional regimen. The theory of cancer cause presented in the book is Beard's trophoblastic theory. Kelley reasoned, as Beard did, that since trophoblasts stop multiplying when the embryonic pancreas develops, so the misplaced trophoblasts that have become cancer cells stop growing when the pancreas secretes enough pancreatic enzymes to digest them.

Because the original Kelley program emphasized the role of pancreatic enzymes, it was based on a vegetarian diet. Since some protein is necessary to help form pancreatic enzymes, however, Kelley recommended a small amount of yogurt in the morning, and almonds—ten at breakfast and ten at lunch. Kelley maintained that if protein intake was both reduced and concentrated into a six-hour period, eighteen hours would be left for pancreatic enzymes to break down tumor masses. The program also included detoxification by means of coffee enemas and liver flushes consisting of large quantities of citrus juices. Fasting was part of the program as well.

One patient who benefited from Kelley's early work is longtime Hodgkin's disease survivor Scott Stirling. In 1971 when Scott finally got to Princess Margaret Hospital in Toronto, Canada, he was diagnosed as having stage four Hodgkin's disease, with cancerous lymph nodes in his chest, underarms, and neck. Scott had first consulted doctors about the swollen lymph node in his neck a year earlier. The first physician who looked at it suspected it was Hodgkin's and wanted to do a biopsy immediately, but since this doctor had just palpated the swollen node, Scott wanted a second opinion. The sec-

ond doctor took blood tests, told Scott he thought it was a slow-growing cyst, and advised his patient to go ahead with a planned trip to India and to have the growth removed afterward.

In India Scott tried to shrink the cyst with homeopathic methods and changed his diet, eliminating meat. When his cancer was finally biopsied, doctors at Princess Margaret, told Scott, "You've had this disease for at least two years. According to the medical averages you should have already died." Scott suspected it was his diet that kept him alive without any treatment, but physicians at the hospital insisted there was absolutely no relationship between diet and cancer.

Scott was urged to become part of a twelve-month experimental chemotherapy program. He refused to become part of a study, but he did take several chemotherapy treatments. "I had felt healthy in every other way, but the chemotherapy was sapping the energy out of me. Each time I had a shot I vomited intensely for six to eight hours and it would take a couple of days before I got my energy back. It seemed to me I was narrowing my options. Then, the fourth time I had chemo, I was sitting there with another fellow that I had met before. I saw that the life in his eyes was getting dim. He was looking like a hollow man. And then I realized that he was a mirror of myself, and I decided to stop the chemotherapy."

Scott's doctors were opposed to his decision. They told him that, based on medical research and their experience, with no more treatment his survival time would be only about ten months. Despite these warnings Scott left their care. He was disillusioned by their therapies and skeptical about their attitude toward nutrition.

His family and friends were shocked by his decision. His mother thought he was committing suicide; his sister thought he'd never live to see his twenty-second birthday. However he was supported by his father and two friends, and the four of them began to travel through America in a Volkswagen van, heading south for warmer weather where Scott felt he would be more comfortable, visiting health food stores along the way.

In one health food store Scott's girl friend found a book called *New Hope for Cancer Victims*, the original title of *One Answer to Cancer*. "That turned out to be the most significant book of my life," Scott said. He and his little caravan traveled to Grapevine, Texas, and he began tracking down and interviewing cancer patients who

were following Kelley's program. He finally was convinced that Kelley was legitimate when he met another Hodgkin's patient who had recovered even though he had been sicker than Scott.

"I made an appointment to meet with Kelley and I found him in this small cottage, with two or three people to help him. It was a tiny little place, no equipment, no technology, so after being accustomed to Princess Margaret's it was really kind of a test of faith for me."

When Scott saw Kelley, it was long before the existence of the computerized questionnaire. Kelley took a sample of Scott's blood and analyzed it, using a sonar blood test, and then the two of them sat down and talked. "He amazed me," Scott said. "He told me how I was feeling. He told me what my energy level was like, and described the pains I was having. He told me that the major tumor I had was above my lung, and no one else had known that. Then he explained to me how to follow the program and what to expect. I left his office with boxes of pills.

"He really impressed me. For the first time I believed in a guy who seemed to be having concrete results. He was very specific about what he was doing and why. The doctors I had seen were *not* that way. They admitted they didn't know what to expect from their drugs."

Scott, his father, and friends settled in Arizona and Scott began the Kelley program. For the first two months he ate mostly fresh raw foods, and a great deal of vegetable juice, including more than a quart of carrot juice a day. "I was lucky," he said, "because in Arizona I could get a lot of organic produce." His intake of animal protein was severely limited. He was allowed twenty almonds a day, eight ounces of yogurt, two soft-boiled eggs, but no milk, meat, fish, or much cheese. He was allowed nothing artificial, canned or frozen. In addition he took over one hundred supplements a day. The pills cost three thousand dollars for a six-month supply—expensive, he admits, but not in comparison to a hospital stay. He also took one or two coffee enemas a day.

After about three months on the program, Scott began to go through a healing crisis: he felt nauseated, full of toxins, and his energy level was very low. His lymph nodes began to swell. He knew that according to traditional medical wisdom the swollen lymph nodes meant that his cancer was progressing and that he was dying.

According to Kelley and nutritional theory, however, this swelling was normal. Scott's tumors were breaking down and his lymph nodes were absorbing toxins from throughout his body. Kelley told him to keep detoxifying. One month later Scott's lymph nodes were back to their normal size; his energy level was high and his frame of mind had improved greatly. Despite this difficult time Scott never wavered in following the program. "It was an easy program to follow. Other people came to me and said, 'I would rather die than go on that diet.' Compared to chemotherapy, for me it was a piece of cake. And I knew after that three months that I had turned the corner."

Scott stayed on the intensive program for more than a year, and today he says he never strays too far from it. He is now thirty-two, and in 1978 he underwent blood tests and X rays at Stanford Medical Center, which showed him to have no signs at all of Hodgkin's disease.

Kelley began to see that although many patients responded to his program as well as Scott, others didn't. He went back to his research, avidly studying everything he could find about cancer, biology, biochemistry, metabolism, and anthropology. He finally evolved a theory that seemed to explain the widely varying response to his program.

Kelley believes, as do most other nutritional therapists and researchers, that all chronic and degenerative diseases develop because people don't eat or absorb necessary nutrients. The problem Kelley sees with traditional scientific medicine and most contemporary nutritional approaches to health is that these treat everyone as if they had identical biochemical makeup and the same nutritional needs. Kelley maintains, along with biochemist Roger Williams, discoverer of the B vitamin pantothenic acid, that each of us is different, not only in our nutritional needs, but in the way we utilize foods.

"Some people can digest meat easily, while other folks can't metabolize it at all," Kelley says. "This commonsense truth really bothers a lot of 'health fad' people. When I began recommending nutritional therapies, I thought vegetarianism was the perfect approach for everybody. How naive! No single diet can be just right for everyone!"

Kelley does believe that detoxification is important for every patient. He uses coffee enemas, though more moderately than in the

Gerson therapy. He feels that, in addition to activating bile secretion, coffee enemas may also activate liver enzymes. Also, according to Kelley, enemas are important in stimulating the immune system, as most waste products of the body are enzyme inhibitors. If proteolytic enzymes are suppressed, cancer cells remain shielded from the immune system by their fibrin coats.

Although detoxification is a common factor for all Kelley patients, the diet varies. Kelley divides people into what he calls metabolic types: each person's type depends on the level of activity in the different parts of the autonomic nervous system. The autonomic nervous system (ANS) is responsible for all those physical functions over which we have no conscious control, including the activities of the digestive tract. The ANS plays a major role in metabolism, the way cells convert food into energy.

The ANS is composed of two subsystems: the sympathetic and parasympathetic nervous systems. Kelley explains, "In general, the sympathetic system when activated speeds up body metabolism, while the parasympathetic system tends, when activated, to slow down metabolism. The sympathetic nervous system is called into play during the classic 'fight or flight' response; the PNS, on the other hand, tends to ensure a basic tonic level of functioning." For example, in stressful situations activation of the sympathetic nervous system accelerates heart rate, while discharges of the parasympathetic nervous system slow the heart.

Kelley's thesis is that each person has a different inborn balance in the activities of these two systems. In some the sympathetic nervous system predominates, while others are more the parasympathetic types.

The sympathetic-nervous-system-dominant types have very strong functioning of the left, or logical, "thinking" brain; parathyroid, thyroid, and adrenal medulla glands; heart, bone, muscle, and connective tissue; kidneys, ovaries, testes, and uterus or prostate. Their muscles are usually quite well developed and show good muscle tone. Their hearts normally beat a little fast. Constipation, insomnia, tension, hyperactivity and drive are characteristic of sympathetic types.

Sympathetic dominant types tend to do best on a vegetarian diet and are more susceptible to cancer and to other degenerative diseases because they have less nerve stimulation of the parasympa-

thetic nervous system—which includes the immune system—and because they usually eat a typical American diet high in animal protein, which is inappropriate for them. According to Kelley, this is why the alternative cancer therapies, with their emphasis on vegetarian diets, are successful with so many patients.

Those metabolic types in which the parasympathetic nervous system is dominant have very strong functioning of the right or intuitive or "feeling" brain; pineal, posterior pituitary, salivary, and adrenal cortex glands; stomach, spleen, duodenum, pancreas, liver, lungs, gallbladder, small intestine, colon, and lymph and immune systems. Their digestion is very good. They are not constipated, but tend rather to have loose stools and diarrhea. They have poor muscle tone, are in general lethargic, slow, and fall asleep easily. They are meat eaters.

These people are not immune from cancer and other degenerative diseases, and when they become sick, it is harder for them to recover. They become sick by attempting to eat vegetarian diets and by being under too much stress. When this happens, after a number of years they switch—or "flip" in Kelley's terminology—into a sympathetic metabolism because their parasympathetic systems are worn out. So they may respond at first to vegetarian approaches to cancer, but because their natural metabolic type is that of meat eater, their diets must be adjusted to provide them with what they need. These are the people for whom vegetarian programs seem to be effective initially, but then fail.

Kelley further divides the metabolic types into ten subtypes: those in whom the sympathetic nervous system predominates are classified as Types One, Four, or Six. Those in whom the parasympathetic predominates are Types Two, Five, and Seven. The third group, those Kelley refers to as balanced metabolizers, are Types Three, Eight, Nine, and Ten.

Each of the ten different metabolic types requires a slightly different form of nutritional support. Those he labels Type Ones are almost pure sympathetic types. He describes these as yang metabolisms, with bodies that tend to be acid. These people do best on a vegetable diet that is alkalinizing, focusing on low purine vegetables, leaf rather than root vegetables, vegetable juices, and dairy products. They should ingest a lot of potassium. They can tolerate coffee, alcohol, and sugar, but they should avoid pantothenic acid, inositol,

choline, and lecithin. Type Ones are slow oxidizers, get a lot done, and generally feel good most of the time.

The people Kelley classifies as Type Twos have a metabolism in which the parasympathetic nervous system predominates. These yin metabolisms tend to be alkaline and require a high-calorie diet emphasizing animal protein, root vegetables, and whole grains: an acid-forming diet. They should avoid potassium as potassium is a potent activator of their already active parasympathetic systems. They should not take high doses of ascorbic acid, which will make them depressed, give them diarrhea, and cause vaginal burning in women. They can, however, tolerate the ascorbates, the various salts of vitamin C. When they take niacin, they are prone to flushing of the skin, and vitamins B₁₂ and B₆ accelerate their metabolism of glucose.

Type Twos are fast oxidizers and tend to be nervous. They get hungry quickly. Type Two, the pure parasympathetic type, lives to eat, while Type One, the pure sympathetic type, eats to live.

Those classified as Type Eight are well balanced, falling exactly between the two extremes, while Type Four is on the sympathetic side and Type Five leans toward the parasympathetic side.

These five types have fairly efficient metabolisms. According to Kelley's theory, however, in addition to metabolic type, people also fall into categories according to the efficiency of their metabolisms. Not only will a person be either sympathetic or parasympathetic, but he will also metabolize food either well or badly. Naturally those whose bodies don't utilize food well will tend to be sickly and will need the greatest amount of nutritional support to become healthy.

Type Six is sympathetic dominant but assimilates only about 20 percent of food intake; Type Seven is parasympathetic but also metabolizes food poorly; Type Nine is balanced but comparatively inefficient. Type Three is halfway between parasympathetic and sympathetic and the least efficient metabolism. It is this type who never feels really healthy and who is attracted to health food stores. Type Tens, on the other hand, are balanced between sympathetic and parasympathetic and have super-efficient metabolisms. They can, according to Kelley, transform or transduce energy from sources other than food.

According to Kelley, in order to understand why different metabolic types exist, we must look back in history. He explains, "We would suspect that the forerunners of the human species displayed

a balanced type of metabolism, ideally suited to a hunter-gatherer life-style. These prehistoric humans evolving in a temperate ecosystem would have had access to a wide variety of vegetable foods, nuts, seeds, occasional meats and fish. A flexible physiology, capable of utilizing a variety of foodstuffs, would have most definitely been an evolutionary advantage."

However during the past fifty thousand years the earth has gone through enormous climatic changes. During the last ice age, some thirty thousand years ago, many of the earth's temperate regions converted to tundralike or desert systems. The variety of foods available decreased, and in order to survive humans in these different areas had to adapt to make use of what was there. For example, since extreme cold diminished the availability of plant-food sources, those who survived in cold regions were those who could metabolize meat. On the other hand, those who survived in tropical climates, where vegetables, nuts, and seeds predominated, were those whose metabolism thrived on such foods—these were people whose sympathetic nervous systems were dominant, the vegetarian types. The people who lived in the Middle East ten thousand years ago were sympathetic types who thrived on a diet composed mainly of grains, with only occasional meat and milk products. The plains Indians of North America, in contrast, lived in a temperate climate that was rich in a variety of animal life. They were parasympathetic hunters and meat eaters. In America today Kelley finds very few pure metabolic types, but rather mixtures.

Kelley maintains, "All medical literature supports our theory but the medical establishment has never looked at it all from that philosophical point of view. I just read for years and years and years everything in every field that I could possibly find in order to get my concepts clear. The orthodox medical community is so specialized and so left-brain-dominant that they can't comprehend this at this time. If somebody shows it to them, however, then it makes logical sense to them and they respond to it."

Doctors who work with Kelley, like Connecticut psychiatrist John Rhinehart, M.D., praise Kelley and his program. A member of the AMA, Rhinehart said, "Kelley is a genius and his program works."

Patients can determine their metabolic type through doctors like Rhinehart, who can supply them with Kelley's *Nutritional*

Evaluation Survey. This handsome, spiralbound, three-thousand-question book is divided into ten parts: "History of Ailments," ranging from acid indigestion to tennis elbow; "Complaints and Problems," including such questions as "Do people usually misunderstand you?" "Are you easily upset or irritated?" "Do you often feel unhappy or depressed?" "Have you lost more than half your teeth?"; "Drugs and Medications" asks patients what drugs they take and with what frequency. Drugs mentioned range from anticoagulants to cocaine. The other sections are "Surgical Procedures"; a section of questions for women only and for men only; one on "Special Diets"; more than four hundred questions probing "Dietary Intake"; thirty-eight pages of questions on "Functional Metabolism," which include requests for description of fingernail texture and description of dream vividness. The book closes with six pages of questions about "Developmental Metabolism," to determine a patient's metabolic type as he was growing up. It is an exhaustive survey and Kelley suggests that patients not attempt to answer all questions in one sitting.

The patient returns the completed survey to his physician, who sends it, along with a standard blood and urinalysis, to the International Health Institute. All information is fed into a computer that determines the patient's metabolic type, the metabolic efficiency of major organs and glands, blood nutrient levels, levels of hormone and enzyme production, any physical abnormalities, and emotional and spiritual condition. Each patient receives a fat, 8½" by 11" paperback containing computerized printouts of the results of his tests and detailing the recommended diet, supplements, detoxification techniques, structural treatments, emotional therapy, and life-style change.

The fee for the survey and analysis varies: Kelley says the doctors who offer the service act as independent consultants and set their own fee, which averages between \$375 and \$550. Kelley recommends that the survey be repeated every six months by cancer patients and others suffering from serious degenerative diseases until their nutrient levels have reached the normal range. At that point he suggests that the questionnaire be taken once a year. Although Kelley's system intrigues many nutritional physicians, some regard it with a degree of caution, emphasizing that there is no proof that computerized metabolic typing is accurate, or even that it works.

Kelley has also received a great deal of criticism from both orthodox and unorthodox spokesmen for the enormously high amounts of supplements that most patients must take. This frequently amounts to between one hundred and two hundred pills a day. One woman with a rare muscle cancer called liposarcoma took 385 supplements a day when she began the Kelley program. After four years she was down to only four a day.

Medical science argues that the human body requires only small amounts of vitamins and minerals and that these are available in foods. Kelley maintains, however, that the patients he sees are so severely depleted that in order to rebuild they nearly always need massive doses of supplemental nutrients. Like Gerson, he says that these nutrients are no longer in our foods. He frequently remarks that people born since 1945 have been on a long fast. It was after 1945 that the use of chemical fertilizers became widespread, destroying necessary microorganisms in the soil and leading in turn to tremendous mineral imbalances and deficiencies in fruits and vegetables.

According to medical science, however, such high doses of vitamins and minerals are still unnecessary and possibly harmful. Doctors maintain that any excess of the water-soluble vitamins (the B complex and C) is excreted in sweat or urine, while excessive amounts of the oil-soluble vitamins (A, D, E, and K) are stored in the body and can be toxic. Traditional physicians also maintain that some trace minerals, such as selenium, are also toxic in any but the most minute amounts.

Gina Glaze, a Kelley spokesperson, said, "Some vitamins may be flushed out of the body initially, but if they were continually flushed out, we wouldn't be getting good results." She pointed out that the program supplies not only enormous doses of vitamins and minerals but various supports for the digestive system so these supplements can be absorbed and utilized completely. Digestive aids include the enzymes, hydrochloric acid—which is low in many people, impairing their ability to digest proteins—and such combinations as the herb comfrey and the digestive enzyme pepsin. These help to dissolve any unnatural mucous coating that frequently covers the villi in the small intestine and prevents the absorption of nutrients.

In Kelley's experience patients do not have toxic side effects from either the oil-soluble vitamins or the trace minerals, perhaps

because their need for these substances is much greater than that of normal people.

In addition to criticism about the amount of supplementation he recommends, Kelley has been accused of profiteering because one of his companies manufactures most of the vitamins, minerals, glandular extracts, and enzymes he suggests. The cost for supplements averages about one thousand dollars a month for the first two years; after this it drops to about six hundred dollars a month. This is high, and insurance companies don't pay for supplements, so cancer patients must bear the costs themselves.

Kelley maintains—and several patients agree—that these supplements are of a quality unavailable anywhere else. These are specially formulated from whole foods, not chemical components, and contain vital elements that have not yet been isolated.

The Kelley theory, with its unusual anthropological viewpoint, broad range, and emphasis on the individual's requirements is intriguing. I expected to find a large number of strong survivors. Scott Stirling clearly was one.

Betty Fowler, who referred to herself with pride as one of Dr. Kelley's girls, is another. Her cancer was first diagnosed at the New York Infirmary in 1971, when she was forty-five. Located on the left side of her lower lip, microscopically the tumor was a basal cell carcinoma, one of those skin cancers that almost never metastasizes and is considered quite curable.

Betty's, however, came with complications. She had a long history of nonmalignant growths that she had had removed from various places in her body. For several years she had all of the symptoms that Kelley characterizes as precancerous. For three years she had an agonizing itch on her face that tormented her twenty-four hours a day. She had batteries of tests, but no cause was discovered until a surgeon biopsied a growth on her chin. This turned out to be the basal cell carcinoma.

The pathologist's report indicated that the cancer extended deep into the muscle and that the surgeon was not able to remove all of it. Betty was left with a lump on her chin that her grandson dubbed "the blue blob."

After two operations Betty's face was still excruciatingly painful. When she returned to her surgeon four months after her second surgery, he referred her to another surgeon who performed a biopsy

that confirmed her cancer was still present. He was concerned that it might have spread farther into her mouth and urged her to see an oncologist to undergo the procedure known as Mohs' surgery, a combination of topical chemotherapy and surgery. But Betty wanted no more medical treatment for her cancer. Instead at the beginning of 1972 she began the Kelley program. She struggled through two years of intense detoxification symptoms, and at the end of 1973 her family physician diagnosed the blue blob as a sebaceous cyst. In 1974 Dr. Kelley told Betty she could have the lump removed, and the specialist who examined her told her it was the largest myoduct or mucous cyst he had ever seen. Betty's malignancy unquestionably became a benign condition after three years on the Kelley program, a nearly unheard-of transformation without traditional medical treatment.

Another success was the woman with liposarcoma who had her leg amputated after a recurrence of that disease. When she was in the hospital after surgery, her doctors would not tell her what her prognosis was. Instead her surgeon left her a copy of the biography of Dr. Tom Dooley, who also had liposarcoma. In the book Dooley was told that survival time after a recurrence averaged twelve months. When Kelley's patient asked her surgeon if that was what he was trying to tell her, he said, "Yes. In our experience that is pretty much the pattern."

So although this woman was considered cancer free when she began the Kelley program, she had a very poor prognosis. Even after her amputation the odds were certainly against her. At this writing she has been alive and well for seven years since her operation. Would she have been alive today without Kelley's therapy? She doesn't think so. She told me, "I felt better in every way after I'd been on that program." Other patients had similar stories.

I had to press to find these successful cases, however. Many of the case histories Kelley sent to me initially were from patients who had had successful orthodox treatment, then suspected recurrences that had no biopsy diagnosis. I heard many dramatic stories of healing due to the therapy, but it was not always certain that it was cancer that had been healed. I knew that these were the patients whom traditional medicine could describe as being cured by standard therapies, or, because there was no biopsy diagnosis to prove a recurrence, of never having cancer in the first place. I also spoke to many short-term patients who seemed to be doing well, but who were

within the statistically probable survival period for their type of cancer.

This initially suggested that Kelley, for all the thousands of patients who used his methods, did not have that many long-term cancer survivors. As I learned more about Kelley, however, I began to see that it might be not so much a lack of survivors, as a lack of interest on Kelley's part in proving himself—as witnessed by his treating McQueen against sage advice. When I told Kelley about my reservations, he said, "I'm not out to prove that this therapy is *the* cure. We try to encourage people to do both: to do what the doctor says and our suggestions, too. All of us together don't know enough or aren't skilled enough: we don't have one hundred percent efficiency yet; we don't win all the cancer cases. But we feel that if patients would do *both* to the fullest, they would have a much, much better chance of survival. I'd say that the largest majority of our people have done that. Common sense would tell you to just do the best that everybody knows."

In conclusion it seems that those patients who follow Kelley's program report great improvements in their overall health. Its effectiveness as a cancer therapy, however, remains in question until medical trials are done.

5.

OTHER NUTRITIONAL THERAPIES

In addition to the Gerson, Laetrile, and Kelley therapies there are several other nutritional approaches to cancer. Some are complete treatments, others focus on the anticancer activity of one element. The complete treatments contain some of Gerson's basic principles, even though they did not evolve from the Gerson therapy. They emphasize whole, natural foods and detoxification, either through enemas or large amounts of fiber. They also eliminate additives and stimulants. Their scientific rationale is generally not as fully developed as that of the Gerson method, but they too have their survivors.

ANN WIGMORE: WHEATGRASS THERAPY

Another nutritional method that requires major dietary changes and emphasizes detoxification is the wheatgrass therapy devised by Ann Wigmore, a doctor of divinity, naturopathy, and metaphysics. Born early in this century in eastern Lithuania, Dr. Ann, as her friends call her, is a small, delicately boned lady, her face seamed, her eyes penetrating beneath hooded lids. She inherited a healing

touch from her grandmother, and whereas Max Gerson's work is characterized by its strong rational basis, Ann Wigmore's discovery of the purifying and cleansing powers of wheatgrass was intuitive, based on her observations of animals and nature. The medical establishment derides Gerson; it doesn't even waste breath on Ann Wigmore. She is treated with a great deal more respect in India, however, where at the request of the government she has spent several years setting up centers that teach the use of wheatgrass.

Wheatgrass is the grass grown from wheat seeds or wheat berries, which are sold in most health food stores. Wheatgrass is easy to grow, even indoors, since it doesn't require much soil depth for its roots. It is laden with chlorophyll, which according to Wigmore is a body cleanser, a purifier, and a neutralizer of toxins. Recent studies at Houston's M. D. Anderson Hospital and Tumor Institute have shown that chlorophyll from wheat sprouts can protect living cells from the action of carcinogens. Wigmore's therapy for all chronic and degenerative diseases is a totally raw-food diet, frequently referred to within the alternative movement as "live" foods because the enzymes that aid in digestion are undamaged. Protein is supplied by combinations of seeds, nuts, sprouts, grains, and legumes. The diet contains large quantities of wheatgrass juice and Rejuvelac, the liquid in which the wheat berries have sprouted. At the two Hippocrates Institutes, in Boston and in San Diego, patients are taught to grow their own wheatgrass, to express its juice, drink it, and also use it in enemas.

Because of its combination of detoxification and diet this approach might, I felt, be a successful one, although I had great difficulty getting names of survivors. As I researched, I found that the prevailing attitude about wheatgrass therapy within the alternative-medicine world was that it might be most useful for early cancers. Based on her experience with it, Mary Lee Rork said, "Wheatgrass is a good therapy for general detoxification and might be effective in the case of an early, localized tumor—but it's just not strong enough for advanced cancer."

Appropriately the best-known long-term cancer survivor who used the wheatgrass therapy had a fairly early cancer. I first met Eydie Mae Hunsberger, who lives in a small town near San Diego, in 1977, following a speech she gave at the annual convention of New York's Foundation for Alternative Cancer Therapies. In a long cot-

ton dress she radiated both old-fashioned fragility and infectious humor as she stood in a bare hallway greeting well-wishers.

When I spoke with her in May 1982, she and her husband Arn had just returned from six weeks on the road in their trailer. He was promoting solar cells and she was making personal appearances and giving radio interviews about her experiences with cancer and diet. It had been more than nine years since she first found the lump in her breast that changed her life completely. She had written her story in *Eydie Mae: How I Conquered Cancer Naturally*, and her second book, again with coauthor Chris Loeffler, is called *Eydie Mae's Natural Recipes*; she was working on a third book and planning a fourth.

"I feel better all the time," she told me. Her voice rang with energy and laughter as she described how, at the beginning of 1981, she decided, at the age of fifty-four, to learn to ride a bike, promptly fell down a hundred-foot embankment, and spent the next five months flat on her back, in agony, as radiologists, surgeons, osteopaths, and chiropractors tried in vain to determine the cause of her pain. In the autumn of 1981 her husband finally tracked down a New Zealand expert who specializes in treating joint injuries. He immediately found that Eydie Mae's pelvis was rotated out of position on both sides and within two hours had her standing up, bending over to touch her toes, free of pain—and of any unvoiced fears she might have had that her anguish was caused by metastases of her breast cancer.

Eydie Mae's seeming fragility and easy humor overlay a core of steely determination. This tenacity held her to the decision not to have a mastectomy, despite the pleas of family and friends. Her battle against cancer began one February night in 1973, when her husband discovered a lump in her breast. Four months earlier Eydie Mae had had a complete physical, including a pap smear and a breast examination, and her physician had told her she was in excellent health. He was surprised to see her back in his office so soon. Now, as he examined her again, he was disturbed by the feel of the lump—irregular rather than smooth—and he ordered a mammogram. When the results suggested cancer, he made an appointment for Eydie Mae to see a surgeon.

At first Eydie Mae felt numb, but as she left the doctor's office, she was swept by rage. "I furiously wanted to strike back!" she writes

in her book. "If there had been a set of dishes within reach, I would have smashed them all against my doctor's adobe wall. . . . This couldn't be happening to me." When she visited the surgeon, he explained that standard procedure was to take a biopsy in the operating room, send the suspicious tissue to the lab, and, if the lump was malignant, to perform a radical mastectomy immediately. Arn asked the surgeon if it was possible to perform a lumpectomy. The surgeon refused, "No! Some doctors will perform a simple mastectomy, but based on my experience I wouldn't give that kind of operation, much less a lumpectomy."

The surgeon closed by saying that he could give no guarantees of cure even with radical surgery. If the cancer continued to spread, he told Eydie Mae that to keep her alive they would then take out her ovaries, her adrenals, and finally her pituitary gland, and would give her radiation therapy to try and stem the cancer and keep her alive. But even with all these treatments he could predict only 80 percent chance of survival for one year and a maximum life expectancy of five years. He made arrangements for Eydie Mae to be admitted to the hospital in three days.

After they left the office, Arn and Eydie Mae decided to look for something else. For the next three days they read everything they could on breast cancer, and were led to the International Association of Cancer Victims and Friends. At the association's bookstore they found a great deal of material but left more confused than before. How could they judge what was right for Eydie Mae? If they chose a nontoxic therapy, which would be best for her?

Eydie Mae finally decided against radical surgery. Soon after she and Arn settled on the lumpectomy, they read of immunotherapy, a new orthodox approach in which cultures of bacteria, generally tuberculosis bacillus, known as bacillus Calmette-Guérin or BCG, are injected into cancer patients in an attempt to stimulate their immune systems into action, giving them the vigor to recognize and defeat cancer cells. They visited one physician who administered this treatment, combined with other nontoxic therapies, and decided to try this method.

Eydie Mae still wanted to have the lump removed, but no surgeon in the San Diego area would agree to perform a simple lumpectomy. The Hunsbergers read articles by the noted surgeon, George Crile, Jr., of Cleveland, that supported their intuition that radical

mastectomy was not necessarily the most effective treatment. Crile maintained that years of survival statistics proved that survival times for radical mastectomy were no better than those for less drastic surgery, usually followed by radiotherapy. Today, as we have seen, Crile's position has been vindicated by the NCI itself, which announced in 1979 that it was recommending less disfiguring surgery for women with early breast cancers and no lymph node involvement.

The Hunsbergers called Crile, who told them that whether a lumpectomy was appropriate or not would depend on Eydie Mae's particular lump. He said hers, located under the nipple but not attached to it, sounded as if it might be in a good spot for a lumpectomy, but he couldn't promise anything until he examined her. Meanwhile Eydie Mae was bombarded by phone calls from friends and family, almost all of them urging her to have radical surgery. She was heartbroken but, praying she was right, bought plane tickets for Cleveland. Before the Hunsbergers left, they contacted one more doctor, a man whose father had recently died of cancer of the neck despite many operations.

This physician was sympathetic and arranged for Eydie Mae to see a surgeon he knew who would agree to the smaller operation. The Hunsbergers were able to cancel their trip to Cleveland and had the lumpectomy performed locally, making them feel they had won a battle.

But the war against Eydie Mae's disease did not continue to run smoothly. The lump was malignant and the immunotherapy, which included antibiotics, was not right for Eydie Mae. She had severe allergic reactions to the antibiotics; she didn't like the massive numbers of vitamin and mineral supplements she was required to take, and she began to hate the many injections that were part of the program. After several months, however, the worst happened: She found four new lumps under her arm and two under the breast incision. Although this program had worked for others, it was not working for Eydie Mae. She tried Laetrile, which didn't work for her either, and her condition began to deteriorate. She was in pain, had no appetite, and she was overcome by weakness, worse than anything she had ever felt before. She was depressed and distraught, feeling she had made the wrong decision and not knowing where to turn.

One evening at a local restaurant Eydie Mae and Arn discussed the possibilities left open to her. One was further surgery. Another was to visit Dr. William Donald Kelley. Another was to track down a woman named Wynn Davis, who was rumored to be familiar with many different nontoxic methods of treating cancer.

As they were finishing their dinner, the couple at the next table walked over to them. The woman smiled and introduced herself as Wynn Davis. She had heard them mention her name and asked if there was anything she could do to help. Eydie Mae and Arn stared, hardly believing their prayers were being answered so directly. They poured out their story and Wynn and her companion debated the various choices left to Eydie Mae. Wynn explained that she had lost her twenty-one-year-old son to cancer and this had made her determined to find a better way to treat the disease. Wynn then told her that if *she* had cancer, she would go to Boston and go on Ann Wigmore's wheatgrass therapy.

So the Hunsbergers headed for Boston, Arn determined to go on the raw food and wheatgrass program with his wife. At the Hippocrates Institute mansion on Exeter Street their stay began with a three-day detoxification, consisting of a fast allowing four ounces of wheatgrass juice three times a day, watermelon juice, cleansing enemas, and, in addition, so-called implants or retention enemas of wheatgrass juice. These are wheatgrass juice enemas taken deep in the bowel and retained for about twenty minutes. During the day there were exercise classes and lectures and, after the first three days, the raw-food meals. With the wheatgrass these are central to the program, and for Eydie Mae and Arn, as for most first-time visitors to the institute, represented a completely new way of eating and looking at food.

All the food served at either Hippocrates Institute is raw, and it consists primarily of sprouts, raw fruits and vegetables, and wheatgrass juice and Rejuvelac. Wheat sprouts and wheatgrass juice are exceedingly sweet, and although Eydie Mae never complained about the taste, many patients find them difficult to consume. Complete protein is provided by the complementary combination of legumes and grains: wheat sprouts with lentil sprouts, for example, each providing its portion of the eight essential amino acids. Certain nuts and seeds also supply complete proteins. The best source is sesame seeds, followed by pumpkin and squash kernels. Peanuts also

contain complete proteins, but since peanuts frequently contain a carcinogenic mold called aflatoxin, they are forbidden on the Wigmore program.

Guests at the institute help prepare the meals, and Arn and Eydie Mae worked along with the others. The Hunsbergers soon loved the mansion, with its abundance of green plants, the variety of people they met, the new way of life they were learning, and the energy and compassion of Dr. Ann.

At the beginning of their two-week stay Eydie Mae found it difficult to keep up with Arn, but she soon felt more energetic. She wasn't her old self again by any means, but she felt better than she had when she began the program. Her lumps felt as though they might have gotten a little smaller, although she didn't know if this was really so or if it was just wishful thinking. But she decided not to have them removed. They were easily visible barometers of her condition; if the lumps grew, she would know immediately that she was doing something wrong.

Back in California she and Arn stocked up on fruits and vegetables, then began their sprouting program, and then built, in rapid succession, a walk-in cooler to store their fresh produce so they wouldn't have to shop every day, and a greenhouse in which to grow their own fruits and vegetables. They bought earthworms to enrich the soil and planted fifty fruit trees, using the best organic gardening advice to keep their plants pest and weed free.

When Eydie Mae went back to her San Diego doctor, almost immediately after returning from Boston, she found that her lumps were indeed smaller. As the months went on, her energy increased. And she and Arn, rather than looking on their new diet as a limitation, looked on it as an opportunity for learning and exploration. They experimented with recipes, sought vegetarian restaurants, invited friends to dinner and introduced them to raw foods, and discovered ways to follow the diet even when they traveled.

It's possible that Eydie Mae's cancer was caught early enough for her to be among the 85 percent of women with early breast cancer who survive for five years or more. She never had biopsies of her suspicious recurrent lumps, so although they followed the metastatic pattern for breast cancer, it is possible that they were not malignant. But her original breast lump *was* malignant, and today Eydie Mae has both breasts. She did not undergo the physical and

emotional trauma of mastectomy; she was spared the damaging side effects of radiation and chemotherapy. She is alive and vital, loving the cross-country trips she and Arn take in their trailer, growing wheatgrass in the back of it. "It's a whole new way of life," she told me.

When I mentioned this enthusiasm to Raychel Solomon, director of San Diego's Hippocrates Institute, she nodded her agreement. She told me that almost every chronic degenerative condition responded to the diet. The only people she could think of who hadn't been helped were the few who didn't want to live. "So they didn't," she said in her matter-of-fact way. "They were very negative about it—'Oh, it's not going to help me anyway.' Sometimes they came to pacify a relative or sometimes so they could say, 'See—it didn't work anyway!' That's very sad."

We talked in the crowded office of the second Hippocrates Institute, located in Lemon Grove, a suburb of San Diego, which I visited on a brilliantly sunny November afternoon. Set back from the road and shielded by trees, the institute is a three-and-a-half-acre complex of low, whitewashed stucco buildings splashed with great patches of fuchsia bougainvillaea, surrounded by philodendron selloum and lush lawns. Once on the grounds it is hard to believe that the nearest neighbor is only two acres away. The private rooms for a maximum of ninety guests ("Guests," Raychel firmly corrected when I used the word *patients*) were comfortably and plainly furnished, as was the public lounge with its piano, the dining room flooded with sunlight, the exercise rooms, and immaculate kitchen. When I visited, there were eleven staff members.

Raychel invited me to lunch, a buffet of sprouts and greens. I helped myself to spoonfuls of lentil, fenugreek, and sunflower sprouts and raw spinach. Breakfast, I later learned from guests, was watermelon juice followed by watermelon rind; dinner was another sprout and seed meal, with an occasional fruit meal. Eight glasses of Rejuvelac in addition to wheatgrass juice are a daily requirement.

There were only six or seven people still talking animatedly, lingering over lunch. Raychel gently joked with the people who came to speak with her, listening to their stories. About herself she would only say, "I watched a friend die of cancer. And then I read Eydie Mae's book and felt that here was something I could do about the

epidemic of cancer. So I went to Boston, learned how to do it, and opened up here in San Diego."

"See that little doll?" she said of a young woman across the room from us. "She was here about two years ago. They keep coming back, touching base, you know. It's like their whole life changed and they want to experience it again." She told me that people came for help with every conceivable ailment, from arthritis to multiple sclerosis to Parkinson's disease to cancer.

"Are there any nurses or doctors on staff?" I asked.

"No, no, no," she answered in a tone that clearly said she thought that the question was foolish. "It's a nutritional program."

"What happens if you have a medical emergency here?"

"We pray a lot," she answered briskly.

The atmosphere in the dining room seemed friendly to me, but Raychel pointed out that it was the first day of a new session and that many people didn't know each other yet. I asked if there were many group activities.

"No. Just the classes. But they become like a family so they plan things together. On the weekends they go places together."

The classes include lessons in digestion and elimination (where new guests are taught how to give themselves enemas and implants), food combining, positive mental attitude, how to grow wheatgrass, sprouting, how to make Rejuvelac and sauerkraut, organic gardening and recipes. Guests are taught polarity and reflexology: two forms of zone therapy and exercise that attempt to unblock the body's energy flow. They also learn the Bates method of eye training, a system of improving vision through eye exercises, mental relaxation, and focusing techniques developed during the 1930s by ophthalmologist William H. Bates.

"There's very little that you don't know, I think. It's really so simple, so very simple. It's the only program I know that not only gives you the experience, but actually teaches you everything that you need to know so that when you go home you're ready to do it," she explained. Guests are urged to stay for a minimum of three weeks; private rooms cost \$225 a week; semiprivate (two to a room) is \$175. Guests are expected to clean their own rooms and are encouraged to volunteer for an hour of work a day.

"Every once in a while," Raychel commented, "I'll ask each to tell me, What brought you here? and they'll always say, 'Well, it was a miracle.' "

ANN WIGMORE'S LIFE

Ann Wigmore's life, as she ramblingly recounts it in her book *Why Suffer?*, was full of struggle, hardship, and early knowledge of death. She was born in a small Lithuanian village that was to be torn apart by German troops during World War I. Her parents, fearing the war they knew was coming, had planned to flee to America, but the birth of their daughter made that impossible. Ann's grandmother agreed to take the sickly baby, who spent many nights violently coughing and choking. Because Ann's grandfather thought that she should be left to die, the grandmother would often hide her in the barn at night to keep her safe.

Ann was raised by this strong, loving woman, who had a natural healing touch, a knowledge of the curative properties of plants, and a deep spirituality, all of which were passed on to her granddaughter. Because Ann's digestion was poor, she was raised on a diet of roots, grass, herbs, goat's milk, and a fibrous bread composed of rye meal and straw. A gruel of freshly crushed rye and fresh goat's milk helped her gain strength. During the war, after many of the frequent raids, their farmhouse would become a hospital and Ann saw her grandmother use a poultice of moldy rye straw and goat's milk to heal the wounds of villagers and soldiers.

At the age of seven Ann was pressed into service as a sheepherder. In addition to the teachings of her grandmother she learned many healing lessons from the animals, wild and tame, that surrounded her when she was out in the meadows. She befriended them and observed how they instinctively sought and found what they needed to heal themselves.

Ann came to America when she was an adolescent. She became a doctor of divinity, finally settling in Boston in the late 1950s. She never forgot the healing power found in grasses, weeds, and herbs, and in a column she wrote for the *Natural Health Guardian*, a nutritional publication, suggested that her readers use certain weeds for their ailments. Then, to her horror, she discovered that healing with weeds was perilous, as weeds were little known, and many poisonous varieties existed.

She turned to the Bible, opening it at random to the book of Daniel and the page where King Nebuchadnezzar heeded the voice from heaven that advised him to go into the field and "eat grass as did the oxen." The broken king did so and regained everything he

had lost, including his health. Ann interpreted this as a clear directive to look to the grasses for healing.

She consulted with Dr. G. H. Earp-Thomas, a New Jersey scientist whose specialty was grasses and soil analysis. He told her he thought she was on the right track. Not only were there no poisonous grasses, but, he pointed out, ". . . grass is the only vegetation on the face of the earth that will healthfully support an animal from birth to a prime old age. And as man is only the highest type of animal, I am surprised that more attention has not been given to this kind of vegetation as food for human beings."

Ann learned that ordinary grass supplied a six-hundred-pound steer with all the necessary carotene to make vitamin A and with several of the B vitamins. But was this the best and most nutritionally complete grass for man? There were forty-seven hundred species. To find the right one she wrote to more than five hundred student subscribers to the *Natural Health Guardian*, from all over the world, asking them to send her seeds of their native grasses. Dr. Earp-Thomas told her that when she got her seeds, she should plant them all and observe them. The grass she was looking for would grow quickly, have a wide, horizontal root spread rather than a deep one, and ". . . a sturdy, cylindrical stem that begins to show its green chlorophyll 'blood' almost immediately."

Seed samples poured in from all over the world, and by the end of a week seven different grasses had fulfilled Dr. Earp-Thomas's requirements. They were rye, timothy, broome, wheat, canary, alfalfa, and buckwheat. Ann put them in separate pots and wondered how to choose the best. Finally she decided the only way was to let an animal choose, telling the publisher of the *Natural Health Guardian*, "We human beings can learn much from other living beings if we have the modesty to do so. We will let my white kitten, Peter, decide. He is actually closer to Nature than is any human being. Yes, God will make the selection through him." Ann's method of choice was certainly unscientific, even bizarre, but it was a natural expression of her early observations of animals.

She arranged the pots of grass on the floor and let the kitten in the room. After sniffing curiously at each pot, the kitten went back to the second one in the row and began to chew on it. Ann then let a cocker spaniel puppy choose, and then an alley cat. All chose the second pot—the one containing the wheatgrass.

Ann decided to try the juice pressed from the grass herself. When she began using the juice, she was exhausted and weary, but within months she found herself revived. She had new energy, eagerness to work, and felt years younger. She urged friends to try the wheatgrass juice and they were invigorated also.

Dr. Ann experimented with the wheatgrass on young chicks, rabbits, and kittens. One group of the animals received good quality feed and the other received wheatgrass in their food and a sprig of wheatgrass in their drinking water. All the animals were healthy, but the ones that were fed the wheatgrass had glossier coats and were far handsomer and more alert.

Dr. Earp-Thomas identified the element in wheatgrass that made such a difference as chlorophyll. An early twentieth-century German scientist, Richard Willstaeter, observed that the chlorophyll molecule is almost exactly the same as the hemoglobin in human blood. The only difference between them is that the central atom in hemoglobin is iron; in chlorophyll it is magnesium. The function of hemoglobin is to carry oxygen to the cells. Both iron and magnesium combine with oxygen.

Ann began taking the wheatgrass juice to ailing old people in the Boston area, and watched the remarkable recovery of all who drank it. During that time she discovered, as Max Gerson had, that the juice had to be expressed with a meat grinder or a special juicer. If an ordinary blender was used, the chlorophyll was oxidized and the juice was useless. She also learned from Dr. Earp-Thomas that the wheatgrass must be fresh, used within an hour of cutting it. She then inherited a large farmhouse and two acres of land in Stoughton, Massachusetts. Ann had long felt that the old people she treated needed a place away from bustling Boston. With the help of many friends she refurbished the building and opened it as a temporary resting place for the old and infirm. She treated them with wheatgrass juice and cooked vegetables at first, but as she learned the benefits of raw foods and sprouts, the diet changed to include more of them. She called the place The Homestead and it is still in existence. In 1963 she opened the Hippocrates Health Institute at 25 Exeter Street in Boston.

Although the evidence I found indicates that the wheatgrass program is not a strong anticancer therapy, many patients who are

already following one nutritional treatment will buttress it with wheatgrass. The reasons vary, but most feel that the high chlorophyll content of the grass is beneficial.

CORNELIUS MOERMAN, M.D.: DIET

Another nutritional clinician, ninety-year-old Dr. Cornelius Moerman, lives in the small rural town of Vlaardingen, the Netherlands, in a seventeenth-century farmhouse owned by his family since it was built. I visited with Moerman in his dining room, accompanied by Dr. Hans Moolenburgh. He and Emily, his assistant, translated for me.

The long, low-ceilinged room was thick with cigar smoke. Moerman and some cronies sat around a massive dark wood table that crowded up against glass-fronted cabinets lining the walls. As the three of us squeezed into chairs, Moerman's friends said good-bye and he turned his attention to us. Erect, white-haired, with a fair, pink skin tightly stretched over his chiseled features, a bright, penetrating glance, he billowed smoke throughout the interview, but his daily extravagance of cigars evidently did nothing to harm him. Eighty-six years old when I met him, he announced heartily that by eating the foods he deemed vital, he expected to live to be 120. "I work eleven hours a day," he said, "more than the common laborer. I never go to bed before twelve. I have consulting hours until seven in the evening, then I listen to the news, then I answer letters to twelve o'clock at night." He was clearly one of the men he described as "men of iron."

He dominated the conversation in his loud, quick, high-pitched voice, an old man used to being heard, sometimes answering my questions, sometimes ignoring them, freely talking over our comments, supremely confident of himself and his methods.

As Moerman writes in his book, *A Solution to the Cancer Problem*, when he was a medical student at the University of Leyden in 1927 he first proposed that although cancer might begin with a local irritation caused by any number of elements, these factors could not in and of themselves create cancer. There also had to be some abnormal condition of the entire body that would prevent the local irrita-

tion from healing. According to Moerman's further reasoning, "Cancer would never appear in a healthy body."

After he became a doctor, Moerman decided to devote his practice to cancer, looking beyond the standard symptomatic treatments for basic causes. The first guide he received was a sales brochure from an organization of wine growers, which claimed that there were fewer cancer patients in their district than in places where no wine was drunk. Moerman was intrigued, and through experimentation on himself he discovered that the citric acid and iodine in wine dilated his blood vessels, bringing more oxygen to his cells. This was the opposite effect of smoking tobacco and several other carcinogenic substances that cause the finer blood vessels to constrict.

Moerman raised pigeons, and his hobby led him further in his research. A pigeon who must fly seven hundred kilometers in an air race with an average speed of seventy kilometers per hour will need to beat its wings a total of 180,000 times. In order for it to be able to maintain such a pace without exhaustion the pigeon must have a very efficient system of bringing oxygen to its cells. Knowing that this was necessary for a healthy pigeon, and also that cancer cannot be induced in a healthy bird, Moerman experimented with the pigeons' diet, finally arriving at a list of substances that would lead to the highest oxygenation in his birds. These substances were:

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| 1. Iodine | 4. Iron |
| 2. Citric acid | 5. Sulphur |
| 3. Yeast, for its high quantities of the B complex vitamins | 6. Vitamin A |
| | 7. Vitamin E |
| | 8. Vitamin D ₃ |

Moerman assumed that ascorbic acid, which pigeons manufacture, was also essential. When his pigeons were given these materials in abundance, their health was excellent. When any of these nutrients was withheld from the diet, their health suffered.

Moerman was now convinced that these elements were necessary to prevent cancer in pigeons. Because their metabolism is so similar to man's, pigeons were frequently used as experimental animals. Would these elements prevent cancer in man? Would they heal a human being who had already developed cancer?

In 1939 Moerman had the chance to try his diet on a patient, Leendert Brinkman. Moerman's examination of Brinkman revealed an abdominal tumor with metastases to the groin and thighbone. Moerman sent the man to a surgeon who found the cancer so widespread that an operation was impossible. The surgeon wrote to Moerman "... I have closed the belly again without removing the tumour. As soon as the stitches have been removed and the wound has healed, he can go home to die."

Moerman told Brinkman of his work and asked if he wanted to try the diet. When Brinkman agreed, Moerman eagerly began the treatment, giving his patient his standard diet: the eight supplements and one half to one liter of buttermilk a day; lemon and orange juice; currant juice; two egg yolks; whole meal bread with butter and cheese; rice with butter and green vegetables; lettuce, cucumbers, tomatoes, carrots, and other vegetables; and brown rice. Moerman's diet contains more fat than the other nutritional approaches, with this rationale: The egg yolks are included because they are high in pyridoxine (B_6) and pantothenic acid. He includes milk, butter, cheese, and natural sugars because B vitamins are also produced in the body by intestinal bacteria which require fat and milk sugar to reproduce. The diet also allowed grapes, plums, apricots, apple puree, pears and peaches, pea soup, honey, and olive oil. Brinkman also consumed huge amounts of ascorbic acid in wagonloads of citrus fruits. At the end of a year his surgeon pronounced him cancer free and Brinkman lived for more than twenty years after his initial diagnosis, in excellent health.

I asked Moerman if he thought Brinkman's attitude had anything to do with his recovery and Moerman told this story. Years after his cancer Brinkman visited his family physician, who looked up at him and said, "Hello, Brinkman. How are you?"

"Three days ago, while cutting wood, I fell from a tree, my ribs struck a branch, and it hurts."

"Well, let's have a look at it," the doctor said. Feeling Brinkman, he exclaimed, "Good heavens! You've broken three ribs. I'll put some plaster on them and you must rest for four weeks."

"Well, Doctor," he said, "you can put the plaster on, but my wife has got to eat, so I've got to work," and Brinkman went back to his hard labor, his ribs healing without any rest.

"So," Moerman continued, "this was a man of iron, but he got cancer because the main food he ate was potatoes and grease," and none of the other elements his body needed.

After Moerman treated Brinkman successfully, he went on to treat other patients: A woman from The Hague had had a cancerous tumor removed from her abdomen only to have it grow back. This time the surgeon deemed it inoperable because it had infiltrated into the stomach wall. A second surgeon agreed with the opinion of the first. After five months of Moerman's treatment, however, the second surgeon found that the tumor had been isolated and could easily be removed from the abdominal cavity. Another patient from The Hague had a recurrent carcinoma of the jaw; his tumor had been removed twice. When it grew a third time and his surgeons suggested another operation, he went to Moerman, who treated him for eight months. At the end of that time, his carcinoma was gone.

Moerman also treated some cancers that were extremely difficult because of their type, location, or extent of spread. He tells two striking stories in his book. One was a Rotterdam man who was diagnosed in Rotterdam's South Hospital as suffering from lung cancer, a pulmonary carcinoma, with metastases to liver and brain. Early in 1956 he had to take morphine for his pain, and doctors at the hospital gave up. Moerman began to treat the man after he had been released from the hospital, and in only a few weeks on Moerman's diet the man was able to eat again, the pains stopped, and he began to gain weight. A year later X rays showed that the carcinoma had completely disappeared. Although the man was then seventy-one years old, he was able to work again.

When I met with Moerman, he told me other stories of healing with his methods. In 1972 he saw a ten-year-old boy with an inoperable brain malignancy. The boy's doctors told the parents that nothing could be done, and in desperation they brought the child to Moerman.

"When I first saw him," Moerman told me, "he was asleep in a chair in my office. He slept most of the day and could not get up. I gave him my medicines in half doses and at the end of two weeks he was up and about, playing and energetic, and now, at the age of sixteen, he plays football, rides his bike, and is completely recovered. His case has been on Dutch television."

There was a seven-year-old boy whose stomach was a mass of cancer, a metastatic tumor whose origin could not be traced. The surgeons could do nothing but sew him up again. Moerman began treating that boy fifteen years ago. He responded quickly to the treatments and today he is a healthy young man, cancer free for years.

Over the years Moerman presented case after case to the Dutch medical authorities. But the answers they gave were always the same. When he showed Brinkman's case history to the Dutch Public Health Department, he was told by a leader in the National Organization for the Crusade Against Cancer, "In our opinion cancer cannot be cured by medicine. If you think you have cured somebody of it, in our view it was not, therefore, cancer." After seeing several of Moerman's case histories the director of the Amsterdam Cancer Institute told him, "If you have succeeded in discovering the cause of cancer and finding a therapy through which the morbid growth disappears, you have solved the problem. I cannot believe, however, that cancer can be cured by vitamins."

Moerman thought that the skeptics in the medical profession would be convinced of the relationship of diet to cancer by a large-scale experiment involving millions of people. In his book Moerman describes such an experiment. During World War II the Dutch were forced to change their diet almost totally in a short period of time. The changes included less meat and the replacement of white bread with whole wheat and rye bread. Sugar was unavailable; oil could no longer be imported and so butter was used rather than margarine. To feed themselves the Dutch people bought quantities of produce from farmers. Fruits and vegetables, high in those elements Moerman believed necessary for health, became the staples of the Dutch diet until 1945, when the end of the war brought a return to high animal protein, white bread, and sugar.

In the Netherlands between 1940 and 1942, before the dietary deprivations and alterations were widespread, the cancer incidence continued its rise, from 160,000 cases to a peak of 180,000 in 1942. Between 1942 and 1945, however, incidence dropped sharply to below 130,000. Once highly processed foods began flooding back into the country after the war, however, the incidence rose again, reaching 160,000 by 1950. But even these provocative figures did not

persuade the medical profession to take a second look at Moerman's claims.

I asked Moerman, "How can certain people eat poorly all their lives and yet still not get cancer?"

"There are other factors playing a role: pollutants, which destroy certain minerals and enzymes at every moment. Also, most important is the question of constitution. Some people have bodies [that] when you only blow on them, they fall. Then you have people who seem to be of iron. When you put them in concentration camps without any food, you can't kill them, because they've got an iron constitution. In a family," he continued, "there's one who always gets the flu, and why should this be? The same food, the same flu—why that one? It's all a question of a stronger immunity system and it's constitutional." When I asked him if there were patients who followed his program but did not recover, he said, "Yes. That is because in the ancestry there is a bad resistance. The parents and grandparents are always prone to get colds in the winter and all sorts of illnesses. It's bad heredity."

I asked him if he thought there was any connection between emotional states and the growth of cancer, and he told me he did not believe in a direct connection, although he did postulate that depression could cause muscle spasms that would interfere with mineral metabolism. "Some people when they get afraid, their stomach is like the home of some cow, a barn stall, it's all round and cramped," and he clenched his fist to illustrate. "There's no blood then, and the cells have no oxygen."

Like most unorthodox therapists in private practice Moerman has no verifiable statistics. According to Dr. Moolenburgh there is no one type of tumor that responds best. American cancer patients who are interested in following Moerman's therapy might find it difficult to work with him, as he speaks no English. Dr. Moolenburgh in Haarlem and Dr. A. Ronhaar in the town of deKrim practice variations on the Moerman therapy and both speak fluent English. Patients who do not want to go to Holland might order a copy of Moerman's book from the International Association of Cancer Victims and Friends (see Appendix, p. 376), and search for a nutritionally oriented physician in the United States who agrees with Moerman's ideas and who would offer guidance in following the program.

Part of Moerman's success undoubtedly lies both in his uncanny ability to inspire confidence in his patients and in his highly developed diagnostic skills. I saw a strong connection between the expectations of his patients and his success. His reputation as a miracle man inspires confidence and hope before his patients even see him. In Vlaardingen they say, "If you have not been to Moerman, you should never give up."

The preparation continues in his waiting room. "The people in my waiting room tell all the new patients, 'What a nice man. When I saw Dr. Moerman, all my nervousness left me and I felt all quiet and nice.'" Once a patient enters his office, he is again impressed by Moerman's diagnostic intuition. I asked him how he diagnosed his patients, and he said, "When it is a woman, I say, 'Let me see your hair.'" Moerman took a lock of my hair between his fingers, held it up and scrutinized it. "That is very fine," he said to me in English. "Then," Dr. Moolenburgh translated, "he says, 'Show me your tongue,' which I promptly did. "Very fine," Moerman said in English. According to Moerman, one frequent symptom of cancer is a very red tongue, a so-called beef tongue, showing that the patient doesn't have enough niacinamide in his body. A healthy tongue should be pale pink, uncoated.

"I recently saw a cancer patient with an early throat cancer. After I told him he could recover, the man asked 'Don't you have to look at everything?'

"Do you think I have any interest in all the corny skin around your heels?" Moerman replied.

"Good heavens!" the man's wife exclaimed. "How do you know this? You haven't even seen his heels. My husband has asked me to take off those corny things."

"You needn't show me that because I know it. I can't look through your shoes, but I know you have cancer, and you therefore have a very big lack of vitamin A." Moerman told me that after four months on the diet, the man's cancer was gone and, in addition, the skin on his heels had become smooth and soft.

The same intuition used to diagnose can be used to predict. Moerman was family physician to a baker. In the old European tradition this man visited him once a week throughout the years. He would come for his eleven o'clock appointment and he and the doctor

would share a cup of coffee. Moerman had brought the man into the world and had overseen his health ever since.

One day, his wife's birthday, the baker brought his wife and his wife's sister with him. The sister had suffered a bad fall, bruising her head. After that her hands hurt her a great deal. Moerman looked at her hands and told her to take three grams of vitamin C a day to help rebuild the collagen. Then he took the baker's wife aside. "Look," he told her privately, "I have seen a lot of small signs in her skin and I prophesy that in two years she will have a cancer." Concerned, the baker's wife took her sister to a hospital where doctors examined her but could find nothing. "This man is a quack and a scoundrel; he takes money for nothing," they told the wife. "There is no cancer at all in her whole body."

Two years later the baker's wife rushed to Moerman's office, distraught. She sat at his desk and began to cry bitterly.

"Annie," exclaimed Moerman, rushing to comfort her. "What is the matter? Has your husband been struck by a car?"

She shook her head and raised her tear-streaked face from his desk. "What sort of a man are you that you can foresee cancer? Today is my birthday again. Two years ago to the day you said that my sister would get cancer in two years." She opened her bag and pulled out a telegram. "This morning I expected my sister to visit on my birthday and instead I got this." The telegram said that her sister was in the hospital, where her doctors had found her to have cancer of the colon.

Moerman assured her that the accuracy of his timing was accidental. The cancer could have developed in three years or in one and a half years. But he had been absolutely certain that cancer would develop from the signs he read on her sister's skin.

Every physician would agree that intuition is vital to successful doctoring. Most, however, would not ascribe it to any mystical or psychic powers, but simply to knowledge and insight gained from years of observation and experience. However Moerman's talents seemed to represent this sensitivity developed to a startling degree.

At the end of our interview I regretted, for the first time since I got to Europe, not having brought a camera. How I would love to have a picture of this man, I thought. As we rose to leave, Dr. Moerman asked me something in Dutch.

"Ah," Dr. Moolenburgh translated, "he asks if you would like to have a picture of him."

LINUS PAULING AND EWAN CAMERON: VITAMIN C

In his small, white, unadorned office in the Vale of Leven Hospital, just a short drive from Loch Lomond, on the west coast of Scotland, surgeon Ewan Cameron told me in his soft Scottish brogue, "Now, vitamin C is no medical cure for cancer. I wish to God it was. I would be shouting it from the rooftops." Six thousand miles away I heard the same caveat from William J. Saccoman, M.D. In his San Diego office, crowded with papers and vitamin bottles, Saccoman, a physician who has used nutrition to treat various diseases for years, told me firmly, "In no way do I think that vitamin C is a *cure* for cancer."

But despite their words of caution neither man could hide his enthusiasm; both were eager to share their experiences with vitamin C, a substance they view as a powerful ally to any cancer therapy. Cornelius Moerman also included vitamin C in his nutritional therapy, and it has since received many strong medical confirmations.

Because of significant clinical experience with ascorbic acid and clinical studies showing longer survival times in patients treated with it, vitamin C as an adjunct to cancer therapies has received a great deal of publicity and is widely used. Even the most traditional cancer patients often will add a few grams of vitamin C to their daily intake.

Cameron told me, "I have no doubt in my own mind that virtually every cancer patient who takes vitamin C, particularly an advanced cancer patient, enjoys an increased quality of life." Saccoman said, "I see a positive response in at least ninety percent. By that I mean an increase in their state of well-being, a weight gain, a gain in their hemoglobin, a decrease in pain—this is the most important thing. A positive response is one where the quality of life improves, regardless if that higher quality of life lasts one month longer, two months longer, two years longer. The patient is feeling better, is able to react with family and friends in a more normal way. I feel that vitamin C has contributed immeasurably to this."

There is striking experimental evidence that vitamin C lengthens survival time. In 1976 Dr. Cameron and two-time Nobel prize winner Linus Pauling released the results of a controlled study in which one hundred cancer patients at the Vale of Leven Hospital,

deemed untreatable by at least two physicians or surgeons, were given nothing else for their cancer but ten grams of vitamin C a day. These one hundred patients were matched with a control group of one thousand patients also deemed untreatable. According to the study the patients were selected from ". . . a random search of the case record and index of similar patients treated by the same clinicians in Vale of Leven Hospital over the last 10 years. For each treated patient 10 controls were found of the same sex, within 5 years of the same age, and who had suffered from cancer of the same primary organ and histological tumor type."

The results of this study were exciting. The mean survival time for the patients treated with ascorbic acid was more than 4.2 times as great (more than 210 days) as for the controls (50 days). Ten percent of the ascorbate-treated patients had a survival time averaging more than twenty times that of the controls. Pauling and Cameron conclude, "The results clearly indicate that this simple and safe form of medication is of definite value in the treatment of patients with advanced cancer."

The data were challenged by other investigators who doubted whether ". . . the ascorbate-treated patients and their controls comprised representative subpopulations of the same population and whether comparable times of untreatability had been assigned to the two groups." In 1978 Drs. Cameron and Pauling repeated the study with two more groups of cancer patients and their results were even better. In this study they measured survival times not from the date of untreatability, but from the date of first hospital attendance for the cancer. "The ascorbate-treated patients were found to have a mean survival time about 300 days greater than that of the controls. Survival times greater than one year after the date of untreatability were observed for 22% of the ascorbate-treated patients and for 0.4 percent of the controls. The mean survival times of these 22 ascorbate-treated patients is 2.4 years after reaching the apparently terminal stage; eight of the ascorbate-treated patients are still alive, with a mean survival time after untreatability of 3.5 years."

Establishment researchers, however, continue to dispute the Cameron and Pauling findings. In the fall of 1979 the Mayo Clinic reported a study showing that vitamin C did *not* prolong the lives of terminal cancer patients. Pauling pointed out that the study did not replicate his and Cameron's work. The Mayo patients were not

untreated when they received vitamin C but were getting concurrent chemotherapy. According to Pauling the chemotherapy destroyed their immune mechanisms, and their bodies used all the vitamin C to help rebuild what the chemotherapy had killed.

The Cameron-Pauling experiments and Saccoman's clinical experience are not the only evidence that vitamin C is an anticancer agent. In 1980 a researcher at the University of Kansas Medical Center in Kansas City found that one form of ascorbic acid significantly reduced the numbers of leukemic cell colonies grown in culture. In 1976 a team of NCI researchers who knew nothing of the Cameron-Pauling work proved that vitamin C is a potent stimulator of lymphocyte production. (Lymphocytes are parts of the immune system that attack and destroy cancer cells.) There is also strong evidence that ascorbate prevents nitrites from turning into carcinogenic nitrosamines in the stomach and destroys several other carcinogens as well. Vitamin C also stimulates the body to produce its own interferon, a recent, highly publicized, experimental orthodox treatment for cancer.

One component of vitamin C—flavonoids—may have a slightly different role in cancer therapy. In one 1952 study researchers found that when test animals were given flavonoids before radiation therapy, they had a significantly lower mortality rate than those animals that had radiation therapy without bioflavonoids.

The initial impetus behind ascorbate therapy for cancer came from Ewan Cameron. As a surgeon Cameron had had great experience with cancer, but as he told me, "I think I realized—and I say this without any conceit—perhaps earlier than many surgeons that the outcome of any cancer doesn't really depend so much on what we surgeons do. One can operate on a very early favorable tumor and have the patient come back in four or five months with multiple metastases. And you can have the opposite experience—operating in a very unfavorable situation, where you were merely expecting palliative removal of a large tumor to relieve symptoms and were surprised and gratified that this patient remains in good health for many years."

Leaning forward over his desk, Cameron went on in his deliberate, careful way, explaining that host resistance to the disease is another factor he began to consider. The existence of spontaneous regressions, those rare cases where tumors disappear for no appar-

ent reason, led him to conclude that if this host resistance could somehow be harnessed, it would result in improved survival times.

"There is a tendency in the whole medical profession and science to look upon cancer as a foreign invader, which must be cut open, burned out. Now if you think about it carefully, the cancer cell is, of course, in no way a foreign invader. Your cancer cell is a part of your body; my cancer cell is a part of me; it just happens to be a cell that's behaving in an abnormal way. It has this ability to infiltrate through structures which are normally a barrier to cells and it is endowed with this property of continuous, autonomous, relentless proliferation.

"My thought is that cancer research work has been concentrated far too much on the cell and not enough on the ground substance." Ground substance is the intercellular gel that surrounds every cell in the body and keeps it isolated from other cells. Normally it is a highly viscous, cohesive substance made up of water, electrolytes, metabolites, dissolved gases, trace elements, vitamins, enzymes, carbohydrates, fats, and proteins. It is composed of large molecules—long polymer chains—and is laced through with collagen fiber, making it dense and highly impermeable.

When cell division takes place, however, there is strong evidence that the dividing cells make room in this ground substance by releasing an enzyme, hyaluronidase, that breaks down the intercellular matrix. Hyaluronidase is normally kept in check by a substance called physiological hyaluronidase inhibitor (PHI), which stops its production. In a normal body there is a constant, controlled interplay between cells and ground substance. But if PHI production is abnormally low, dividing cells will keep releasing hyaluronidase and will keep proliferating.

"Now," Cameron went on, "I thought that we were perhaps looking upon this the wrong way. It's not that the cancer cell is behaving abnormally. We probably should ask why a *normal* cell is not proliferating all the time. If we take a few cells and put them into a tissue culture, they will immediately divide and continue to divide, and continue to divide—these cells never stop. So that what is normal for a body is really abnormal—if you can use the phrase—for a cell. The cell is restrained or repressed by *contact* with this highly viscous environment."

Cameron knew that cancer patients were low in vitamin C and

that the body needs vitamin C to produce both the hyaluronidase inhibitor and collagen. (Scurvy, the disease that results when vitamin C is undersupplied, is essentially a breakdown of collagen structures throughout the body. Norman Cousins used vitamin C to help heal himself of a collagen deterioration disease.) Cameron reasoned that perhaps vitamin C could help cancer patients both by increasing production of PHI and by strengthening the ground substance. When he heard that Linus Pauling had estimated that large doses of vitamin C would reduce cancer incidence and mortality by 10 percent, Cameron wrote to Pauling and asked him to suggest a vitamin C dose for cancer patients. Pauling suggested ten grams a day, and in November 1971 Cameron began giving vitamin C to terminal patients in his hospital. When he got some good results, he continued his work, always cautiously, but with enormous excitement.

"Those early patients, they really did respond, without a doubt. But they died. Now, if you just measure, in terms of what you've done for a person, somebody who lived five months instead of four, then it's not that much. But if you pull somebody from a state of misery to a state of reasonable existence, then even if he *does* die in four or five months, you've done something."

Cameron used ten grams a day of vitamin C in his trials, increasing that amount with great caution. "We've given some people forty-five grams a day, others twenty grams a day, not enough to see that it was any better. I could be wrong in that. There are scientists in the United States who give their cancer patients one hundred grams a day."

Dr. William Saccoman is one of those American scientists. "I think I've used the biggest doses of most anybody with the possible exception of Fred Klenner." For years Klenner, of Reidsville, North Carolina, has successfully used massive doses of vitamin C to treat viral diseases, sometimes giving patients as much as 200,000 milligrams (200 grams—about 7 ounces—a day). He does not treat cancer, however. Saccoman is a bit more restrained; his goal is to supply cancer patients with one gram of vitamin C per kilogram of body weight, or about 70 grams for a 160-pound man. Dosage is easy to regulate as the first symptom of overdose is diarrhea.

When asked about contraindications for such high doses of C, Linus Pauling told me, "I don't think there are any contraindica-

tions that have any significance for a cancer patient." He pointed out to the Senate Subcommittee on Health in 1975 that although it's been suggested that a high intake of vitamin C might lead to the formation of kidney stones, not one such case has been reported in the medical literature. Saccoman responded that none of his patients had ever had any problem with high doses.

Saccoman's office hours begin at 7:15 and his waiting and treatment rooms are crowded with people. During our conversation in his private office a sweet-faced seventy-year-old woman sat with us in a recliner, receiving chelation therapy for her atherosclerosis. Saccoman has always liked the nutritional approach to health, choosing to get his medical degree from the College of Medical Evangelists, a nutritionally oriented religious medical school, rather than Stanford, the University of Southern California, or several other prestigious medical schools to which he was accepted. Saccoman spoke slowly and fixed me with his dark eyes. I was not surprised to learn that he is also a hypnotherapist, a past president of the San Diego Society of Clinical Hypnosis.

He has worked with biofeedback techniques and stressed to me the importance of the will to live, calling it ". . . equally important to any program that they go on. We must, as health care individuals, recognize, respect, and try to enlist the aid of the patient's psyche. This can be represented in what the medical profession calls *rappor*. Or it can be referred to disparagingly by many of my colleagues as 'placebo effect.' I don't care what you call it. It is terribly important not only for any person who has cancer, but any other kind of an illness, that he get his positive forces, psychologically and spiritually, working for him."

Saccoman also stressed the necessity for a good patient-physician relationship: "It is remotely possible that a person can recover from certain types of illness, such as strep throat, with the use of penicillin and an unfriendly physician, but when it comes to any of the illnesses which incorporate the psyche, no way can he be benefited by this physician. These illnesses can include cancer, ulcers, ulcerative colitis, rheumatoid arthritis—a myriad of diseases." He has also found that by diminishing side effects of chemotherapy and radiation when used in conjunction with those therapies, vitamin C helps patients to feel better and to regain their will to live.

Saccoman generally begins his treatment with a combination of

intravenous and oral vitamin C, gradually increases the oral dosage, and decreases the intravenous. Cameron and Pauling used intravenous vitamin C in their trials. For cancer patients who want to take vitamin C, both Saccoman and Pauling told me that any form of oral ascorbic acid is good.

Despite Linus Pauling's two Nobel prizes and his reputation for genius he had to apply five times to the National Cancer Institute and the American Cancer Society for research grants to study vitamin C. He was turned down each time. Late in 1980 he finally received a \$322,000 two-year NCI grant to do animal studies of vitamin C's action. The goal of the current experiments is to determine the effect of different amounts of dietary vitamin C on the time of first appearance, incidence, and growth rate of mammary tumors in a strain of mice bred to develop them.

Vitamin C is still largely ignored by the medical establishment, perhaps because it doesn't meet the main traditional criterion of effectiveness: shrinking the tumor. But as I studied fifty years of medical journals, I found an abundance of materials that shrank tumors. Unfortunately in tumor-killing doses they often also did in the host. Shrinking tumors, I soon learned, was not the same thing as healing cancer.

Or perhaps the reason for lack of acceptance of vitamin C therapy was what Dr. Cameron suggested: "We worked this out on paper—hexagons and bonds, and all this—and we suddenly come to this rather *ludicrous* suggestion—that such a common organic stuff as vitamin C, the stuff you can buy in drugstores here for pennies, could possibly have any value in cancer.

"So we had this thing written out on paper, and it made sense, but *seemed* nonsense that something that's been known for—what? thirty, forty years—could possibly help cancer patients. So I know it's been written about now, in some scientific papers, but you must remember, in November of '71 it seemed rather ridiculous to give a dying cancer patient vitamin C. I had to say to nurses and all my assistants and residents, 'I'd like to try this.' They thought, The old man is off his rocker."

Vitamin C is water soluble—so that any excess is simply excreted by the body—nontoxic, and easily monitored for any adverse side effects. Given these facts and the clinical and experimental evidence of its value, it's difficult to understand why cancer physi-

cians do not routinely encourage their patients to take it in addition to any cancer regimen.

MACROBIOTICS

Macrobiotics, an intricate nutritional scheme based on ancient teachings of the East, was wildly misinterpreted by the popular press in the 1960s as a diet of only brown rice. Although a natural, vegetarian diet emphasizing whole grains is an important element of macrobiotics, it is actually a complex, all-encompassing philosophy.

It was developed in this century by George Ohsawa, who as a sixteen-year-old boy healed himself of supposedly incurable tuberculosis and stomach ulcers. He developed his therapy from the principles of traditional Chinese, Japanese, and Indian philosophy and medicine, all of which stress a balance and harmony that he called macrobiotics. In addition to writing more than three hundred books, Ohsawa introduced rice cultivation to Europe.

The macrobiotic theory denies dualism; everything is part of a harmonious whole. The yin-yang symbol, with its interlocking dark and light segments, represents this universal principle. The dark yin pole is feminine, passive, and expansive, while the light yang pole is masculine, active, and constrictive. The symbol demonstrates how each pole is defined by the other and how both are necessary.

According to macrobiotics everything in the world is either yin or yang. Water, for example is yin; fire yang. The elements potassium, oxygen, calcium, and nitrogen are yin, while hydrogen, chlorine, sodium, and carbon are yang. Hot, sour, and sweet tastes are yin; salty and bitter tastes are yang. Vitamin C is yin; vitamin D is yang. Animal foods are yang; soft drinks, sugar, citrus, stimulants, artificial chemicals, and spices are yin.

The philosophy of macrobiotics led its advocates to definitions of cancer vastly different from the Western point of view—both orthodox and unorthodox. Ohsawa, for example, in his book *Cancer and the Philosophy of the Far East*, writes, ". . . cancer is in reality a profound benefactor of mankind. It is cancer that slows down the catastrophic speed of our civilization—which is hurrying pell-mell toward the very extremities of dualism!"

In America the macrobiotic diet is promoted as a cancer treat-

ment at the East West Foundation, a nonprofit educational organization located in Boston. The foundation is headed by Michio Kushi (author of *The Cancer-Prevention Diet* [1983]), a teacher of macrobiotics and a healer who believes that it is a dualistic mistake to view cancer as an enemy to be destroyed or removed. He sees cancer as an attempt by a body that's been put out of balance—by eating wrong foods or by the stresses of modern civilization—to return itself to balance. Cancer, he claims, localizes toxins in one organ or place, allowing the rest of the body to continue its life functions. If the cancer is removed, the toxins are scattered throughout the body, allowing sickness to begin in another place. As Ohsawa says, cancer "... is indeed your blood-brother."

Kushi maintains that a tumor should not be removed, but instead a cancer patient should seek to uncover why his or her body has developed such toxicity. He points out that during the past fifty years the civilized, industrialized countries have drastically changed eating patterns that have characterized the human diet for hundreds of thousands of years. Throughout history the primary foods, of necessity, have been indigenous and eaten in their season, probably providing the vitamins, minerals, and undiscovered subtle essences necessary to help people adapt to seasonal changes. According to macrobiotic thought by eating foods flown from great distances, we do not get the appropriate nutrients when we need them. In addition, Kushi says, our high intake of fats, sugars, refined and processed foods, chemical additives and drugs is responsible for cancer patients' overload of toxins. If diet is changed and the body's toxicity is reversed, tumors will disappear.

According to Ohsawa's theory, since cancer is a yin (expansive) disease, it can be cured by bringing the body back into balance with foods that are yang. These include whole grains, vegetables, beans, and seaweeds. Fruits are yin, so, unlike the other nutritional therapies, macrobiotics either omits fruits or gives them only a small role in the diet.

Michio Kushi differs somewhat from this view, saying that cancer can be yin or yang, depending on its cause. Yang cancers come from the intake of too much animal protein, while yin cancers result from too much sugar, citrus, stimulants, spices, and chemicals. Yang cancers are generally those of the deep, compacted organs, while yin cancers are found near the surface or in the hollow organs. The aim of treatment is to bring the body back into balance. According to

Kushi the diet should vary with the type of cancer, but variations are slight. Cancer patients with a yang cancer, for example, can have fruit on occasion, but only fruit that is locally grown.

Macrobiotic philosophy leads to divergences from both alternative and traditional concepts about cancer. For example, since vitamin C is yin, Ohsawa believes that it can be one cause of cancer. Anthony J. Sattilaro, M.D., president of Philadelphia's Methodist Hospital, author of *Recalled by Life*, and one of macrobiotics' most celebrated cancer patients, explored the subtleties of this: "According to macrobiotic thought vitamin C is expanding, centrifugal. If you give that to a patient with an expanding cancer, like leukemia, the patient will die. If you give it to a patient with a contracting cancer, like pancreatic, then it will put the patient back in balance. The Cameron vitamin C studies [see p. 161] should be analyzed in terms of cancers seen this way," said Sattilaro.

Although sugar is yin and should be avoided in most cancers, salt, on the other hand, is yang, and according to the macrobiotic scheme—contrary to the Gerson and other nutritional therapies—can help to cure cancer. Perhaps the most provocative statement Ohsawa makes is that cigarette smoke is yang and that smoking, therefore, rather than causing cancer is useful in preventing and even curing it.

Dr. Sattilaro's story first appeared in the *East West Journal*, a monthly publication of the East West Foundation, and was then reprinted by the *Saturday Evening Post*. It is too soon to call Dr. Sattilaro a survivor, as his metastasized prostate cancer was first diagnosed in June 1978, as of this writing less than four years ago. However his story does illustrate how a nutritional approach created a dramatic turnaround in a very advanced cancer.

In June 1978 Dr. Sattilaro's bone scans showed tumors in his skull, right shoulder, spine, sternum, left sixth rib, and genitals. Biopsies verified malignancy. In September 1979 after surgery—which did not remove all of his cancer—and estrogen therapy—which was not successful at halting the spread of the remaining cancer—and the macrobiotic diet, Sattilaro's bone scans were clear, revealing no trace of malignancy.

During the month of June 1978 Dr. Sattilaro had three operations in three weeks: his right testicle was removed and at the same time a biopsy of his prostate was performed. Next, his left sixth rib

was removed, and in the third week in June surgeons at Methodist removed his left testicle. Even with this extensive surgery, performed to give Sattilaro more time, his doctors thought he had only about a year and a half to live.

Sattilaro's doctors hoped that his cancer would go into remission after both testicles were removed, since the source of the cancer-stimulating male hormone testosterone was gone. But his cancer continued to grow and the doctors prescribed large doses of estrogen, which made him vomit and caused his weight to shoot up. He was in nearly constant pain from his surgery and the remaining cancer and he took a mixture of strong drugs including morphine, which gave him at best only partial relief.

During this time Sattilaro's father had been dying of cancer; he finally passed away on August 7. On his way home after his father's funeral Sattilaro uncharacteristically picked up two hitchhikers. Sattilaro told them that he had terminal cancer, and one of them, Sean McLean, looked at him and said, "You don't have to die; cancer isn't all that hard to cure."

Sattilaro dismissed McLean's comment from the superior vantage point of his knowledge as a physician, but McLean persisted. He told Sattilaro that if he would adopt a macrobiotic diet, he could halt his cancer.

Several days later McLean sent Sattilaro a book called *A Macrobiotic Approach to Cancer*, filled with testimonials from cancer patients who claimed the diet was effective. Sattilaro dismissed the book as unscientific, but before he threw it away, he decided to call Dr. Ruth Schaeffer, a Philadelphia physician who claimed to have treated her metastasized breast cancer successfully with macrobiotics. When Sattilaro called her home, her husband answered the phone and told Sattilaro that his wife was in the hospital, dying.

"Well, you've answered my question," Sattilaro said. "Macrobiotics doesn't work."

The husband said swiftly, "Oh, quite the contrary. While she stayed on the diet, she was fine." He told Sattilaro that macrobiotics was certainly worth investigating.

So Sattilaro visited Denny Waxman, director of Philadelphia's East West Foundation. Sattilaro was in terrible pain at the time, so severe, despite his heavy drug program, that there were times when he could hardly talk. Waxman told Sattilaro to begin the basic mac-

robiotic diet: 50 percent whole cooked grains, 30 percent locally grown vegetables, 15 percent beans and sea vegetables, and the rest soups, condiments, fruit, seeds, and nuts.

Sattilaro found it hard to cook the meals for himself, and Waxman invited him to his house to eat. Sattilaro was intensely skeptical of the diet and he thought Waxman and his friends were strange. "When I came to Denny's house," he said, "I thought that this was the biggest bunch of weirdos I'd ever seen. They were all sitting on the dining-room floor, ready to eat with chopsticks, and then they started to pray, and I just thought this was a bunch of crap." But after being on the macrobiotic diet for two weeks, his pain was gone.

In the fall of 1978 Sattilaro saw Michio Kushi, who adjusted his diet, and Sattilaro continued to improve. He went off the diet once and his pain returned, so from then on he followed the diet scrupulously, carrying brown rice and vegetables to the many parties he attended as president of the hospital.

However even though he followed the diet to the letter, he was still skeptical and was still taking estrogen. In June of 1979, against the advice of his oncologist but with the support of Michio Kushi, he stopped taking estrogen, determined to find out whether it was the hormone or the diet that was responsible for his improvement. By September his bone scans were clear, convincing him that it was the diet that had caused the changes in his condition.

At the beginning of 1980, under Dr. Sattilaro's guidance, family practitioner Rick Donze—who had seen his own health improve after following a macrobiotic diet—began supplying the diet to patients at Methodist. "Since Dr. Sattilaro's story appeared," said Dr. Donze, "we've been deluged by people who say, 'Give me the diet that saved Dr. Sattilaro's life.'" To date the diet has been given informally, but Methodist plans clinical trials in the future.

I found macrobiotic theory intriguing but I could find no long-term survivors, although, like Sattilaro, there were provocative stories of reversals. Some, sadly, turned out to be temporary. The late Jean Kohler was one of those stories.

On the NCI survival graph for pancreatic cancer, by the eleven-year mark the survival line has dropped off the bottom. In most other cancers one can speak of a survival curve; even the lung cancer chart bends from the vertical to the horizontal after four years, leaving a trail of survivors at about the 5 percent line. But the

pancreatic line plummets unforgivingly. After four years the overall survival figure is already down to 2 percent. Jean Kohler was in that 2 percent, crediting his survival time and seemingly excellent health largely to macrobiotics.

Kohler was a pianist and professor of music at Ball State in Muncie, Indiana. I met him at a cancer conference sponsored by the East West Foundation, held in a baronial room at Pine Manor College, a short ride from Boston. Fixing me with his bright eyes (like everyone else who's on the macrobiotic diet, the lines around Kohler's eyes radiated like a sunburst), Kohler described to me the onset of his disease in August 1973—the stubborn, itching rash that led his doctor to perform a blood test. When his physician saw the results, he told Kohler to go to Indianapolis immediately for more tests at Indiana University Medical Center. Although Kohler still felt fine, except for the itching, he knew his doctor thought his condition serious. Kohler, however, insisted on waiting a few days so he could play a recital with a visiting violinist.

When Kohler arrived at the medical center, doctors had to perform major surgery, opening him up to reveal a fist-sized malignant tumor at the head of his pancreas, with metastases to his intestines. His condition was inoperable and there was nothing the doctors could do except perform a minor bypass operation that would give Kohler more time. As he remembered it later, "They told my wife, Mary Alice, and me that there was no hope. They said there was nothing they could do, but that they would be able to keep me alive for some time with chemotherapy and that they could give me narcotics at the end."

Although he was shocked by his disease, Kohler never really believed that he was going to die. "We've always been interested in psychic phenomena," he explained, "and two years before, we saw a clairvoyant who said she saw me going to the hospital but that it would turn out all right."

Kohler's one experience with the chemotherapeutic agent 5-FU convinced him that was not the right remedy for him, and his first one-week course of treatment was his last. When he left the hospital, he and his wife began their search for an alternative. Mary Alice read of the work of Dr. Carl Simonton (see Section Eight), the oncologist/radiologist who teaches cancer patients meditation and visualization to help them heal their cancers. The Kohlers began to

work with the Simonton techniques. Simonton's mind-over-body ideas were easy for the Kohlers to accept because they had taken the Silva Mind Control course a year before, a conditioning course in which they had experienced how programming consciousness affected the body. They investigated several nutritional programs and were ready to travel to Texas to see William Donald Kelley when they met with a nutritionist in Evansville, Indiana, who impressed them with her knowledge.

She persuaded them that Michio Kushi's macrobiotic diet would be the best treatment for Kohler's cancer, so Kohler canceled his flight to Dallas and went to Boston.

At their first meeting Kushi diagnosed Kohler's condition using *bo-shin*, the Japanese art of visual diagnosis. This ancient technique determines particular ailments in the body by reading and interpreting subtle signs in the skin, hair, eyes, mouth, and so on. Kohler told me, "If I had seen Kushi first I wouldn't have had to have surgery. He saw my cancer of the pancreas in my eyes: the whites were blue-gray and I had a small blister on my right eye that he said indicated the trouble was with the pancreas."

Kushi put Kohler on a diet consisting of 50 to 60 percent grains, mainly brown rice; 20 to 25 percent cooked vegetables; 10 percent raw vegetables; 10 percent beans; 5 percent seaweed; and 5 percent miso, a fermented soybean product. Kohler stuck to this diet religiously and, in addition, used Simonton and Silva techniques. By April of 1974, when Kohler went back to see Kushi, his cancer was gone. Kohler's chemotherapist, Dr. L. H. Einhorn, was amazed by Kohler's recovery, and Kohler received a letter from Einhorn that states, in part, that Kohler was ". . . found to have inoperable carcinoma of the pancreas, and was treated with one five-day course of 5-FU."

"He refused chemotherapy and instead has been religiously following a macrobiotic diet. Certainly, somewhat surprisingly, but happily, he has had incredible response and he remains essentially free of symptoms from his malignancy and already has had a very remarkable course with his disease. Certainly, this cannot in any way be ascribed to his single course of 5-FU."

Kohler's cancer remained in remission, but he died on September 14, 1980. The autopsy report does not give pancreatic cancer as the cause of his death: cancer cells were found, but these were local-

ized and according to his surgeon, Dr. Michael Sobel, were not clinically significant. He died, rather, of a massive undiscovered infection, clinically termed "occult," that had probably begun during his original surgery. How, I wondered, could the macrobiotic diet cure cancer and not lead the body back to a state of health sufficient to overcome an infection? Kushi and Jean's widow, Mary Alice, maintain that Jean's macrobiotic diet *did* control it for a long time. Such occult infections are not uncommon after surgery. When they do occur, they invariably become apparent quickly. However, Jean's did not become symptomatic for nearly eight years, surfacing only as the result of an unusual combination of circumstances.

According to Mary Alice, Jean had been weakened by an attack of flu during March 1980 from which he never allowed himself fully to recover. Although nauseated and in pain, he continued to teach. Throughout July, Jean was jaundiced, fatigued, and easily chilled. But he kept teaching, practicing piano, giving concerts, and promoting macrobiotics.

Late in August he and Mary Alice traveled to Amherst for the annual East West Foundation Seminar. There he lectured about macrobiotics and, despite a fever, gave a concert. Kushi felt that Jean's diet had become *too yang* and adjusted it to include more fruits and juices, but it was too late for dietary changes to help. On August 30, with his abdomen swollen and in great pain, Jean was admitted to Boston's Beth Israel Hospital. There for the next sixteen days he was tended by medical technicians of both East and West. In addition to his surgeon, the nurses, and hospital technicians he was visited by the Kushis and a macrobiotic surgeon, was treated with acupuncture and shiatsu massage. He underwent a GI series, was placed in intensive care, and had surgery to drain an abscess on his liver and infections throughout his intestines. He began to hemorrhage internally and surgeons performed an emergency operation to tie off all the blood vessels they could. But although his bleeding eventually stopped, Jean's kidneys and heart finally gave out.

Remembering Jean's remarkable fight and determination, I asked Mary Alice whether he had suffered some emotional difficulties that might have weakened his will. Mary Alice told me that before he got sick he hadn't, but she said that in the hospital, "He suddenly seemed quietly *resigned* to relinquishing everything here

—family, friends, his teaching, his Yamaha, rare plants, books on an infinite variety of subjects, laughter, life. All these things he had loved intensely, yet during the long two weeks at Beth Israel, there was no sign at all of struggle to hold on to any of it. I asked him once whether he'd like to hear how we had worked things out, by long-distance phone, to postpone his return for the fall term. He smiled slightly and shook his head. . . . two weeks earlier he would have been interested in every detail."

Macrobiotics remains mysterious and enigmatic. It controlled Jean Kohler's cancer but could not prevent his death. At this time there is no way to resolve the deep contradictions between macrobiotics and the other nutritional therapies. Perhaps the studies planned for Methodist Hospital may offer medical explanations for macrobiotics' effects.

Macrobiotics raises questions in addition to its divergences from other approaches. With all the other nutritional therapies, patient belief in the treatment seemed necessary for success. Strangely, with macrobiotics alone I found people whose cancers had regressed when they followed the diet, even though they hated or disbelieved it. These patients include Sattilaro, who remains skeptical about the therapy and who has broken with Kushi and the East West Foundation because he feels they exploit their patients. Sattilaro was quick to caution, "The macrobiotic diet does not help everyone. There is too much overstatement about its benefits, particularly in the macrobiotic community."

In the year and a half that he's been supplying the diet to patients at Methodist, Dr. Donze has seen a wide range of response. "Some patients are doing well, some are doing terribly, many have died." The difference that he sees in patients who are doing well and those who are not is one of attitude. "Those who do well are excited about the diet and believe that it will help them."

Why then did Jean Kohler, who was almost fanatic in his devotion to macrobiotics, not survive? Perhaps it was not related so much to his belief, but more to priorities that allowed him to put his work before his health. Dr. Sattilaro said, "People who are committed to getting well—they get well."

For all his reservations about macrobiotics Dr. Sattilaro strongly believes that Western medicine needs to examine it more carefully. "I am very much a part of organized medicine and I feel

that any other system has got to be a complement to Western medicine. I am not promacrobiotic, but I am begging organized medicine to take a closer look at the East. It is simply arrogant for us to dismiss the diagnostic technique of face reading, for example, which has been practiced for five thousand years, simply because it doesn't require technology."

6.

HARRY HOXSEY

Mildred Nelson first heard of Harry Hoxsey and his cancer remedy in 1946, on a trip home to Jacksboro, Texas, to visit her parents. Her father, who had had a cancerous eye removed, was having a recurrence in the eye socket. Her mother, who also had cancer, was in poor health as well. When her father told her that he was abandoning orthodox medicine to try the Hoxsey therapy, Mildred was horrified. She was a registered nurse, and she knew very well that cancer could be healed only by surgery or radiation (chemotherapy was still highly experimental), certainly not by an herbal tonic and a change of diet. She used every argument she could muster to persuade her father to stick with medically proven methods, but when she saw that his mind was made up, she drove her parents to Dallas, where Harry Hoxsey ran a remarkable clinic from 1946 to 1957.

Mildred sat in the waiting room and watched the crowd of cancer patients around her, filling the room and spilling out onto the porch that surrounded the building. They talked animatedly as they waited to see a doctor and get their medication. The clinic was always busy, seeing 150 new patients each week. Mildred's father finally came out of an examining room, followed by a tall man with an air of command.

"Mildred," said her father, "I want you to meet Harry Hoxsey." Mildred looked coldly at this man whom she believed was taking her parents' money and destroying their chances of ever recovering from cancer.

"Hello," she said frostily, not offering her hand.

Harry Hoxsey smiled down at her. "I understand you think I'm a quack," he said, a grin on his long face. "You know, I've found that people who feel that way, once they've been here awhile, eventually convert. When they do, why, then they're the strongest allies I have. I could use a nurse, and your father tells me you're a good one. Why don't you come and work for me?"

Outraged, Mildred told him, "Mr. Hoxsey, I can't see how I could ever work for you."

At home, after taking the tonic for a few days, her father claimed to feel better. Mildred believed that he was deluding himself and endangering his life but finally realized that the only way she could convince him was to take the job at the clinic and investigate it herself. She called Harry Hoxsey, told him she had changed her mind, and drove to Dallas to start work. But instead of finding evidence that would expose Hoxsey as a fraud, she found to her amazement that cancer patients seemed to improve when they took the Hoxsey treatment. Mildred stayed in Dallas for the next thirteen years, until Harry Hoxsey was asked to open a clinic in Reno. He sent Mildred to handle that clinic, and while she had the experience to run it and to work with patients, she didn't have the belligerence and aggressiveness she needed to fight off harassment by the FDA and the AMA. When she was forced to close that clinic, she worked with several West Coast doctors using the Hoxsey method. Finally in 1963 she opened the Bio-Medical Center in Tijuana, Mexico, which she still manages. Her father remained cancer free until his death in 1957 of meningitis; her mother is alive and well today.

The Hoxsey therapy itself is absurdly simple. It consists of a black liquid (occasionally a pill) for internal cancers, and a powder, salve, or clear solution for external cancers. The ingredients of the liquid are potassium iodide, a substance that is very important in the Gerson therapy, combined with various mixtures of such homely substances as licorice, red clover, burdock root, *stillingia* root, *barberis* root, pokeroot, cascara, Aromatic USP 14, prickly ash bark, and buckthorn bark. The yellow powder, the red paste, and the clear

solution are caustic substances; corrosive materials have been used since antiquity for the treatment of external cancers. The ingredients of the yellow powder are arsenic sulphide, yellow precipitate, sulphur, and talc. The red paste contains antimony trisulphide, zinc chloride, and bloodroot; the solution is trichloroacetic acid. According to Hoxsey the yellow powder works only on malignant tissue and doesn't harm normal tissue, but when the red paste and the solution are used, the skin around the cancer must be shielded with Vaseline or zinc oxide. Patients who use the external treatments also take the internal medicine. There is a diet, but it is much less stringent than those of other nontoxic therapies. Patients must eat whole, fresh foods and must omit salt, sugar, and alcohol. Carbonated beverages, pork, tomatoes, vinegar, and highly seasoned foods are also forbidden not because they are regarded as harmful, but because they interfere with the action of the tonic.

According to Hoxsey, the internal medicine is a detoxifier. Like other alternate therapists he believed that a chemical imbalance in the body caused mutations in certain cells, eventually leading to the development of a cell that could flourish in the abnormal environment. He claimed that the body fluids were normalized by the tonic, making the chemical environment unfavorable to the growth of the abnormal cells. Dr. Alejandro Lugo, former chief physician at the Bio-Medical Clinic, called the tonic a nontoxic form of chemotherapy: "It changes the metabolism of the body, extracting large amounts of sodium from the cells, and introducing potassium and iodine. The formula and the diet help the normal cells to regain the balance that they're supposed to have, and the bad cells, the cancer cells, are out of—how can you say it?—well, they don't have anything to feed upon. It's like anything else. These things don't have anything to reproduce or to feed from, so they die." To facilitate detoxification, the clinic tells many patients to drink large amounts of grape juice to help cleanse the liver. Although there is no scientific explanation for how this might work, grapes have long been regarded by naturopaths as a chemical solvent. While the tonic is not a painkiller, Dr. Lugo told me that some patients said their pain was relieved after beginning the treatment.

Of all the alternative therapies the Hoxsey program is perhaps the hardest to accept. Its most persuasive evidence is not its slender scientific rationale, but the down-home sincerity of Mildred Nelson

and the survivors. The remedy itself was actively promoted by Harry Hoxsey, an aggressive personality who, until his death in 1974, spent most of his life fighting lawsuits from the AMA, which was relentless in its pressure to drive him and his treatment out of business. In Hoxsey, however, the AMA met an immovable character, and his story is a larger-than-life prototype of the struggles faced by developers of unaccepted medical ideas who insist on keeping a high profile.

We have only Hoxsey's side of the story, as told in his spirited book, *You Don't Have to Die*. He is always beyond reproach and the representatives of traditional medicine who pit themselves against him are always venal and unscrupulous. Sometimes the tale he tells strains credulity, portraying him as possessing a puzzling combination of naiveté and shrewdness. However it is a fascinating account of courage and tenacity, and there seems to be strong evidence that the Hoxsey therapy helps to reduce external cancers.

Like Ann Wigmore's approach the Hoxsey story begins with an observation of animals' healing instinct. In the summer of 1840 on the Hoxsey family's horse farm in Illinois, a prize Percheron had developed a noxious, spreading sore on his leg. The vet diagnosed it as cancer and said the horse would have to be shot. John Hoxsey, Harry's great-grandfather, persuaded his father not to destroy the animal, but to let nature take its course. Hoxsey noticed that every morning the horse would head for the same part of the pasture and eat only the herbs and plants that grew there. After a week or so the sore began to look better. It dried up, started to shrink, and finally began to separate from the surrounding tissue. After three months Hoxsey could slip a knife under it and remove it, and by the end of the year the horse's leg was completely healed. John reasoned that the cancer regressed because of something in the plants the horse ate. So he picked each of the plants and mixed various combinations, trying them on other sick horses. He finally found that three formulas were effective a great deal of the time. One was a liquid, the second a salve, and the third a powder.

News of his remedies spread across the countryside. Neighboring farmers brought him their ailing horses, and he cured many of them. Only on his deathbed did he pass on the secret of his formulas to his son, Harry Hoxsey's grandfather, who in turn passed it on to his son, Harry Hoxsey's father, John H. Hoxsey. With John H. in charge the family moved to Auburn, Illinois, where he also bred and

raised horses, treating their cancers under the guidance of his father. In 1877, because of his experience, John H. was granted a license as a veterinary surgeon.

Harry Hoxsey, the youngest of twelve children, was born in 1901. By that time his father had begun treating human cancers, feeling that if his formulas were effective with animals they might work with people as well. At first he worked under the supervision of two doctors, but he eventually opened an office in his home to treat these patients himself. From the time Harry was eight years old, he helped his father in his work. Patients appreciated his gentle touch and positive attitude, and his father encouraged him warmly, telling him he would make a fine doctor someday.

News of his father's success spread by word of mouth and people from all over the area began to besiege him for treatment. Most of his patients were poor, but he never turned them away if he thought he could help. Eventually he turned his veterinary hospital over to an assistant and treated only cancer patients, even those who couldn't pay at all.

In 1915 Harry's father fell and broke his nose, and then was sick for a long time. He couldn't work and fifteen-year-old Harry, the only child left at home, decided it was up to him to support his parents. He quit school to work in a coal mine. He took a correspondence course and got his high school diploma in three years, studying nights after long days at the mine.

Harry's father developed erysipelas, an acute streptococcus infection of the skin, and soon became bedridden. Before he died, he passed the formulas on to Harry, instructing him to copy each one hundreds of times over. Satisfied that Harry had committed them to memory, John H. destroyed the original and the copies. Praising his son's dedication, ambition, perseverance, and natural interest in healing, he made Harry promise to treat everyone who came to him, whether or not he could pay.

Since he could treat no one until he became a doctor, Harry turned away the cancer patients who came to visit him during the years that he was working, while he saved for medical school. After his mother died, he moved in with a sister in the small town of Taylorville, Illinois. He was visited by a wealthy man named S. T. Larkin, who had a malignant growth on his face. Doctors had told him there was no way they could treat it and predicted that he would

be dead within the year. According to Hoxsey's book Larkin told him, "I knew your daddy well, saw him take sores like this off other people with that medicine of his. I want you to do the same for me."

Harry refused, explaining that he couldn't practice medicine without a license. "I'm going to be a doctor. I can't afford to do anything that would get me into trouble." Larkin looked at him and said, "Son, I can't wait, I'll be dead by then. I'm eighty-four now, have only a few more years to live. But let me tell you, those few years are just as precious to me as a whole lifetime is to you. The first thing they teach doctors is that human life is sacred. You have the power to save mine, if you treat me now. If you don't I'll surely die, and you'll be guilty of murder!"

Harry had no answer for that argument, and so he said he would treat Larkin if he promised not to tell anyone. But when Larkin came back for his second treatment, he brought another patient with him. When Harry protested that he couldn't treat this man because he was planning to go to medical school, the man promised that if Harry cured him, he would write a check big enough to send Harry to the best college in America. Harry shook his head, sighed, and said, "Might as well treat two as one," and began to treat the second patient, a man called E. C. McVicker, a director of the Farmer's National Bank.

The next time, there were three patients for Harry, who finally blew up. "If one of you dies, I get the blame, and maybe spend the rest of my life in the hoosegow. If you get well you'll blab it all over the county, and I'll wind up in jail for practicing medicine without a license. No matter how it turns out, I'm in trouble."

But the three men recovered, and there was no way he could stop treating patients. He soon had to give up his job in the coal mine to take care of all the people who came to him for help. He was amazingly successful and had soon saved enough money for medical school. He needed help in finding a college with a good premed program that would accept his mail-order high school diploma. None of the local doctors was interested in helping young Hoxsey, so when a friend introduced him to eye-ear-nose specialist Maximilian Meinhardt, head of a large Chicago sanitarium, Harry was eager to cooperate when Meinhardt challenged him to demonstrate the results of his cancer therapy.

He treated ten patients at the sanitarium, all of whom began to

improve. A physician at the sanitarium, Dr. Bruce Miller, said that this improvement meant little: only long-term survival would prove results. Harry asked Miller to interview some of his father's patients. Miller did and was astounded, but he told Harry that there was no way anyone outside the medical profession could develop a cancer cure that would be accepted. The ranks of medicine would close against him; he would be jailed for practicing without a license. When Harry assured him that he planned to become a doctor, Miller told him that he would not be able to get into any medical school in the country, that the doctors in his hometown were already angry with Harry's success, and that an investigator had been sent from Springfield and was gathering evidence to take out a warrant for Harry's arrest.

Miller, however, had been so impressed by Hoxsey's patients that even at the risk of his own reputation he suggested to Hoxsey that the two of them go back to Taylorville to open a clinic. He would be in charge and Hoxsey would be his assistant. After a few years of using the medication they would be able to produce hundreds of well-documented cases to present to the medical profession. Miller agreed that Harry would not have to reveal the contents of his formula until the medical profession was ready to accept them. And so the two of them went into partnership.

Miller was a scrupulous doctor. He didn't merely accept the medical reports patients provided but made his own diagnosis and, if he felt it was necessary, sent patients to outside labs for biopsies. Harry closely observed the older doctor at work. Under his guidance he began reading widely and gained a broad knowledge of medicine. Within two months their offices were so jammed with patients that they were overflowing their space.

An insurance broker from Chicago visited Taylorville at this time, learned of the Hoxsey treatment, and told Hoxsey and Miller that he felt the treatment was too important to stay in such a small town. He had just sold a life insurance policy to Dr. Malcolm L. Harris, chief surgeon at both the Alexian Brothers and the Henrotin hospitals, in Chicago. Harris was a powerful figure, later president of the American Medical Association. If Hoxsey and Miller were interested, the salesman would call Harris and set up an appointment for them to see him. Miller and Hoxsey agreed, hoping Harris would see the benefit of their treatment and give his support to establishing a clinic in Chicago.

In Chicago Harris presented them with Thomas Mannix, a sixty-six-year-old former desk sergeant who had terminal cancer. He weighed about seventy pounds and was little more than skin and bones when Miller and Hoxsey met him. He had a huge open sore on his left shoulder, a burn from X rays that had failed to stop the growth of his cancer. The man appeared near death, but Hoxsey was confident he could save him. He assured him, "Sarge, if you help us we'll pull you through. You can get well. It depends on how hard you fight. Do you understand me?" Hoxsey thought he detected a flicker of response in the man's eyes. He applied the yellow powder and left the medicine with instructions for its use. By the end of four weeks the sore was completely hardened, black, and lifting away from the flesh at its edges. An even more significant change could be seen in Mannix: The man who had been moribund a month earlier had regained his energy. He sat up, his eyes were bright, he ate with appetite, his pain had vanished. He was ready to go home. In a dramatic presentation Miller and Hoxsey removed the healed growth before an audience of astounded doctors and interns.

Hoxsey was thrilled. The next morning at 7:15 Harris called and asked Hoxsey to come see him in his office. Harris told Hoxsey that his medicine opened up new vistas in the treatment of cancer, but that before anything could be released, extensive testing would have to be done that would include monitoring patients for any possible side effects and determining the most effective dosages. Hoxsey eagerly agreed to cooperate fully with this large-scale test of his formulas.

Then, according to Hoxsey's book, came the shocker. Harris brought out a ten-page contract stipulating that Hoxsey was to turn over all the formulas to Harris and his associates and give up all claims to them. Hoxsey would mix and deliver large quantities of the various medications and teach one of the doctors how to administer them. He would close his cancer clinic and never treat cancer patients again. At the end of ten years, during which he would receive no money, he would get 10 percent of the net profits. Harris and his group would set the fees and collect 90 percent.

Stunned, furious, disillusioned, Hoxsey managed to restrain himself long enough to say he wanted to show the document to his lawyer. According to Hoxsey Harris told him that there could be no changes, saying, "We've set forth the only conditions under which your treatment can be ethically established. Unless you accept them

in their entirety, no reputable doctor will have anything to do with you or your treatment." Still keeping his temper under control, Hoxsey told Harris he needed time to think it over. Harris then told him that unless he signed the agreement, he wouldn't be allowed to see his patient, Sergeant Mannix, again. With those words, reported Hoxsey, Harris picked up the telephone, called the hospital, and told the superintendent that neither Hoxsey nor Miller was to be admitted. Hoxsey and Harris fought over the telephone. Harris then threatened to have Hoxsey arrested for practicing medicine without a license, no matter where he tried to treat patients.

When Hoxsey described the confrontation to his partner, Miller told him sadly that he would now have the whole American Medical Association solidly against him and that it would be impossible to keep bucking them. Hoxsey responded that he wouldn't stop fighting until he had proved that he could cure cancer; Miller said that he was still with him. Thomas Mannix, whom they continued to treat at home, recovered completely, and died ten years later of heart disease. At his death there was no trace of cancer in his body.

Hoxsey returned to Taylorville, intending to enlarge his practice there. Then the man who had introduced him to Harris suggested that he open a clinic in Chicago, promising that he and some friends would finance the clinic. Ever optimistic, Hoxsey agreed and went to Chicago again, but he soon found that the directors of the new clinic were charging patients five hundred to one thousand dollars. Furthermore they did not accept charity patients, and Hoxsey would not renege on the promise he had made to his dying father.

Back in Taylorville, early in 1925 Hoxsey opened a new clinic, called the Hoxide Institute, with Dr. Wilbur Washburn, a local doctor, as its medical director. The institute charged a maximum fee of three hundred dollars and accepted all patients, whether or not they could pay. The Taylorville Chamber of Commerce began a campaign to publicize the clinic, advertising the Hoxsey remedies in midwestern newspapers and attracting patients from throughout the United States and Canada.

The AMA was not happy with the widespread publicity for Hoxsey's therapy and placed heavy pressure on Taylorville city officials. But, according to Hoxsey, every AMA investigator or representative was met with the unyielding support of his or his father's former patients.

An article attacking Hoxsey appeared in the January 2, 1926, issue of the *American Medical Association Journal* (former name of the *Journal of the American Medical Association*) and was sent by the *Journal's* editor, Dr. Morris Fishbein, to the Taylorville Chamber of Commerce. Dr. Fishbein urged them to withdraw their support of Hoxsey. But even this powerful voice failed to sway the chamber's members, some of whom had been cured by Hoxsey.

When the state medical board tried to serve Hoxsey with a warrant for practicing medicine without a license, Taylorville's deputy sheriff refused to serve it. He told the lawyer representing the board that Hoxsey was treating him for cancer and that he had no intention of serving a warrant on a man who was saving his life.

Then in the spring of 1927 the deputy sheriff called Hoxsey, warning him that he had a court order to attach all of Hoxsey's property. Hoxsey was then served with a complaint signed by all his brothers and sisters demanding their share of \$500,000 from their father's estate. At first Hoxsey didn't understand; then he realized that the "estate" in question was the Hoxsey formulas. He saw the sister who had taken him in after their mother's death and confronted her with the complaint. She admitted she had signed it, saying she had been put under enormous pressure and was threatened by three lawyers.

Hoxsey learned that the lawyers intended to sell the Hoxsey formulas to the same AMA group that wanted to buy him out in the first place. When the case came up in court, Hoxsey's lawyer cited two very old common law cases that covered exactly the same points as his, in which the law had ruled in favor of the defendant. The judge on the bench ruled for Hoxsey.

Hoxsey had won a victory, but at a great cost. He had lost his clinic, and by the time the suit was settled, he was broke. Several wealthy men in Girard, the town where he was raised, donated money for him to open a new clinic there. In July 1929 the new clinic opened, with Dr. Miller once again supervising. The clinic did well. The following February, Hoxsey received a call from Norman G. Baker, a former hypnotist who ran a hospital in Iowa. Baker also had his own radio station, on which he publicized his hospital. Baker was not a doctor, his hospital was not approved by the AMA, and the doctors who worked with him were not licensed to practice medicine in the state of Iowa. But despite his questionable reputation, when

he called Hoxsey asking him to work at this hospital, Hoxsey soon agreed.

Patients poured in from all over the United States and Hoxsey treated as many as three hundred people a day. But Baker broke his agreements with Hoxsey to keep his fees low, to treat the poor for free, and to expand the facilities. Hoxsey left him. In 1940 Baker was convicted of mail fraud and was fined and sentenced to four years in Leavenworth. It's hard to understand why Hoxsey agreed to work with a man who could only further blacken his already damaged reputation. Hoxsey defended his six months with Baker, however, by saying that it was the fault of the AMA that he could not work with more reputable men. ". . . My brief association with him is more than justified by the fact that countless human beings who otherwise might be dead and buried are still alive and healthy today."

One of these patients had what Hoxsey considered the worst case of cancer he ever saw. Mandus Johnson of Galesburg, Illinois, came to him on March 2, 1930, with a cancer that covered the entire top of his head. Hoxsey thought there was no chance, but he writes that the man pleaded, "Either cure me or kill me! I can't stand the odor; I'd rather be dead than like this." Hoxsey told Johnson that he felt it was hopeless, but that he would try. Five weeks later, on April 8, Hoxsey was able to remove the cancer. On May 30, in response to an allegation in the *AMA Journal* that Johnson had died as a result of the treatment, Johnson himself, alive and kicking, appeared with some one hundred other patients in a demonstration of support for Hoxsey at Weed Park in Muscatine, Iowa.

The resilient Hoxsey soon opened a new clinic in Muscatine along with his cousin, T. T. Hoxsey, M.D., and another physician. There his work was observed by Ernest A. Maross, an importer of foreign cars and one of the founders of the Indianapolis Speedway. Impressed by what he saw, Maross and his wife offered to finance a free clinic in Detroit for ninety days. If Hoxsey could treat 50 percent of his patients successfully during that time, Mrs. Maross agreed to "endorse the treatment, sponsor the clinic, and obtain the sponsorship of other prominent citizens," Hoxsey states.

In less than two weeks the Wayne County Medical Society had him arrested on charges of practicing medicine without a license. He was freed on bail and the case came to trial two months later. Despite the sworn testimony of more than eighty patients who said they were alive because of the free treatments they had received at

the clinic, Hoxsey was found guilty. At his appeal the conviction was reversed. But the doctor in charge of the clinic had his Michigan license revoked and had to go back to a small town in Ohio. Hoxsey and his backers could find no other physician willing to defy the AMA, and the free clinic had to close.

In March 1933 Hoxsey met with Dr. George Dorrance of the Oncological Cancer Hospital in Philadelphia. Dorrance was interested in what he had seen of Hoxsey's clinical records and asked if Hoxsey and Dr. William M. Mason, a New Jersey physician whom Hoxsey had cured of a malignant growth on his face, would bring ten patients to Philadelphia to be examined and studied. Hoxsey and Mason presented fifteen impressive patients to a group of twenty doctors at the hospital. The physicians asked Hoxsey to treat twenty-five of the hospital's charity cases under Dorrance's supervision, and Hoxsey and Mason agreed. When Hoxsey arrived at the hospital, however, Dorrance told him that he had been in touch with the AMA and that Hoxsey couldn't treat any patients until he gave Dorrance his formulas. Hoxsey refused. He told Dorrance, "Let me treat these twenty-five patients. If they get well, and you officially state that my treatment cured them, I'll release my formulas to the entire medical profession." Dorrance was obstinate, insisting he had to have the formulas first. Not willing to back down, Hoxsey and his group returned to Atlantic City, where he and Mason had been practicing.

A few weeks later Hoxsey met with Dr. Ira W. Drew, who had been professor of children's diseases at the Philadelphia Osteopathic College for twenty years. After observing Hoxsey's treatment and clinic for a few days, he asked him to come to Philadelphia and work with him and his wife in their clinic. He told Hoxsey, "Organized medicine will never accept you, Hoxsey. We osteopaths have had plenty of experience with the medical monopoly. They've fought us tooth and nail for forty years, trying to keep us from practicing medicine. Even though our training is as thorough as that of any other doctor, and in most states we are now admitted to practice on a par with other doctors, they still insist we're not legitimate physicians, bar us from the staff of approved hospitals. You're just wasting your time trying to get them to recognize your treatment." Hoxsey agreed and, in the deepest part of the Great Depression, moved to Philadelphia. More than 90 percent of his patients were charity cases but, whether they could pay or not, they were all treated.

Then, again through an influential lay person who was inter-

ested in the treatment, Hoxsey was put in touch with the distinguished scientist Dr. Clarence Cook Little, head of the Roscoe B. Jackson Memorial Laboratory at Bar Harbor, Maine. A leading cancer researcher, Little was managing director of the American Society for the Control of Cancer, a branch of the Rockefeller Cancer Institute. According to Hoxsey, he persuaded Little to send him forty-eight mice with cancer. Of those, Hoxsey chose the twenty-six strongest and gave half the internal medicine, the other half the external medicine. At the end of twelve weeks half of the mice were still alive. Little was amazed. He asked Hoxsey to come to Bar Harbor and work with a group of two hundred cancerous mice, treating half and keeping the other half as controls. Hoxsey began the experiment. Some of the mice were beginning to improve when Little learned of Hoxsey's battle with the AMA. According to Hoxsey, although at this time all the control mice were dead or dying while 60 percent of the treated mice were alive and thriving, Little canceled the experiment.

Hoxsey stayed with Drew for two years, but although his relationship with the osteopath was successful, he was broke, his wife was pregnant, and at the age of thirty-five he was still eager to have his treatment recognized by the medical profession. Early in 1936, after reading that Dr. R. L. Spann, a surgeon in Dallas, had been experimenting with various methods of treating cancer, Hoxsey went to see him. He presented him with case histories, and Spann contracted with Hoxsey to establish a cancer clinic at his Spann Sanitarium.

The clinic opened on March 9, 1936, and Hoxsey was successful with his first patient, a woman hemorrhaging from cancer of the cervix that eighty-four hours of radium treatments had failed to control. When she came to the clinic, she was so weak that she had to be carried in, but in thirty-three days her cancer was gone. Hoxsey worked at the clinic for the six months specified in his contract with Spann, and at the end of that time he decided to open his own clinic with Dr. C. M. Hartzog, a physician who had worked with Spann. Hartzog, a graduate of Tulane University, was licensed to practice in Louisiana, Mississippi, and Texas. Within a week of opening this clinic, Hartzog's license was revoked; then he, Hoxsey, and Hoxsey's wife, Martha, were charged by the state medical board with practicing medicine without a license and were hauled off to jail. This was

the first of three years of such charges—there were more than a hundred in 1937 through 1939—but none of them resulted in a conviction.

Hoxsey frequently faced an assistant district attorney named Al Templeton, whose younger brother, Mike, developed cancer in 1939. He had a colostomy, but his cancer continued to spread and doctors agreed that nothing more could be done for him. Jack Howard, a nurse who had been hired to take care of Mike in his last days, came to see Hoxsey and told him that Mike's uncle, Lewis T. Carpenter, vice-president of the Southland Insurance Company in Dallas, was eager to try anything that would save Mike's life. Was there anything Hoxsey could do? Hoxsey agreed to try. In a month Mike was taken off painkillers and had gained forty pounds.

Although Al Templeton was furious when he first learned that Mike had been treated by Hoxsey, after a couple of days he called Hoxsey and asked to see him. At the end of a long talk he told Hoxsey that he wasn't able to fight him anymore and that if Hoxsey needed a lawyer, Al wanted to represent him.

Although Hoxsey now had an influential lawyer, the Texas State Board of Medical Examiners continued to harass him. Hoxsey wrote to members of the Dallas County Medical Society, urging them to investigate his treatment. Out of the five hundred letters sent, he received only three replies. Then in 1940, one by one, the pathologists who had been doing Hoxsey's biopsy reports told him that the AMA had instructed them to stop. Soon Hoxsey found that doctors, laboratories, and hospitals all over the country had been directed not to send him any patient reports or medical records.

On July 8, 1941, Hoxsey was brought to trial for practicing medicine without a license. The judge, Hoxsey claims, was biased. Hoxsey was found guilty, fined twenty-five hundred dollars, and sentenced to five months in jail. Hoxsey appealed the case, listing fifty reversible errors in the conduct of the trial.

While Hoxsey was waiting for his appeal to be heard, the Texas State Board of Medical Examiners swore out a warrant for his arrest in Stephens County, Texas, charging that he had treated a Mrs. Sally Lane, who had died while under his care. Hoxsey says that Mrs. Lane had been treated by him and Dr. Hartzog for cancer of the womb and intestines after her doctors had told her there was nothing more that could be done for her. She improved under the Hoxsey

treatment, but contracted the flu and died. The state's witnesses were the two sons, daughter, and daughter-in-law of the woman, but they did not hold Hoxsey responsible for her death. According to Hoxsey, "They testified that I'd never posed as a doctor, that Dr. Hartzog had examined and directed the treatment of the patient, that she'd shown remarkable improvement before coming down with the flu, and that we hadn't charged a penny for treating her." Hoxsey was found not guilty and in April 1942 his appeal came up and the 1941 decision was reversed.

Hoxsey had won some major battles now, but the pressure continued: Hartzog finally had a nervous breakdown and left the clinic. No other doctors would stay with Hoxsey for long.

But Hoxsey's successes with his patients continued. After Mrs. Sam Scothorn had both her ovaries removed on May 4, 1944, the biopsy showed carcinoma of the left ovary. She had thirty X-ray treatments during the next year, but began to develop pain around her liver, which nothing could relieve. Her physical condition began to deteriorate, and an X ray showed an enlarged liver. Her husband, an osteopath, was visited by his colleague, Dr. Ira Drew, who mentioned that he was in Dallas partly to see his old friend, the cancer specialist Harry M. Hoxsey. When Scothorn asked about Hoxsey's credentials, Drew told him, "I know people living in Philadelphia today who were given up to die 15 years ago." That same day Scothorn took his wife to the Hoxsey clinic, and after three months of the medicine her pain was gone and the size of her liver was reduced by about 30 percent. Her blood count was down to three million red blood cells after the X-ray treatments, but after treatment by Hoxsey her red blood count reached 4.6 million. When Hoxsey wrote his book in 1956, Mrs. Scothorn was still alive and well.

By the end of World War II, Dr. Spann was about to retire. In 1946 Hoxsey opened his clinic on Gaston Avenue, in the former Spann Sanitarium, where he stayed for more than ten years.

Hoxsey continued his fight to have his treatment recognized and accepted by orthodox medicine. On October 19, 1946, he met with Dr. R. R. Spencer, then chief of the National Cancer Institute. Hoxsey was accompanied by three congressmen and by four physicians.

Spencer said that if Hoxsey sent him records of fifty cured cases along with "microscopic slides of biopsies" to prove that the patients had actually had cancer, the agency would investigate. On November 10 Hoxsey's secretary sent sixty cases to NCI. In many of these

cases biopsy slides could not be included because, Hoxsey says, "AMA doctors, hospitals and laboratories refused to furnish them to us. However each case was carefully documented with the names of doctors or institutions where these slides could be obtained."

After these records were sent, Dr. H. H. Humphries of Jacksonville, Florida, visited the Hoxsey Clinic, stayed a week, and at the end of that time sent a telegram to Spencer, which stated in part, "I heartily endorse and recommend Hoxsey method as it is the greatest boon to humanity I have seen during my forty-two years practice as physician and surgeon. I know fair investigations of his patients and records will verify this." The NCI never acknowledged Humphries's telegram or any of the favorable letters it received from other impressed doctors. Instead the NCI contacted the AMA.

In the NCI's report on Hoxsey's sixty cases it claimed no biopsy proof was available on twenty-five of forty cases of external cancer and fifteen of twenty internal cancers. In several of these cases Hoxsey claimed that biopsy proof was either included or was readily available from the doctors or hospitals named in his report. According to Hoxsey there were many other inaccuracies in the NCI report. The NCI incorrectly classified various metastasized malignancies as external cancers. In one case Hoxsey had included a positive biopsy for breast cancer. The NCI had it reviewed by the original pathologist, one of those who had stopped doing biopsies for Hoxsey because of pressure from his local medical society. This pathologist changed his original positive diagnosis to one of no malignancy present. There were also several cases where the NCI's pathologists disagreed with the biopsy reports, including one case of lung cancer that, the NCI concluded, ". . . leaves no doubt that there was extensive pulmonary pathology, though the nature of it is debatable." Hoxsey points out that the "debatable" pathology came from the Mayo Clinic, where two doctors and a famous pathologist had diagnosed the lung tissue as malignant.

Hoxsey states that the NCI was not interested in his cure or his claims, but only in supporting the AMA. He quotes a letter from an NCI official to a cancer patient who had asked for information on the Hoxsey treatment. NCI's letter, in addition to saying that Hoxsey's records did not show his claims to be justified, stated, "Perhaps you do not know that the AMA has published several articles which label Mr. Hoxsey as a hoax and a charlatan."

Then in 1947 Elmer Thomas, United States senator from Okla-

homa, visited the Hoxsey Clinic at the urging of Oklahoma contractor Tom Chapman who had two sons stricken with cancer. The first had been treated by the Mayo Clinic for Hodgkin's disease for seven weeks. At the end of that time Chapman was told that the boy was dying. Chapman heard of the Hoxsey treatment and brought his son to the clinic. Hoxsey told him that he didn't know if anything could still be done for the boy, but that he was willing to try. Hoxsey treated him for three weeks, and his lymph nodes were reduced as well as an enormous swelling in his neck. But at the end of three weeks he developed pneumonia and died. Two months later the Chapmans' three-and-a-half-year-old son developed Hodgkin's and the parents immediately brought him to Hoxsey. By the end of six months his Hodgkin's was gone. Chapman was overjoyed and wanted to tell other cancer patients. He asked the Oklahoma Medical Society and the American Cancer Society to arrange treatment for twenty-five patients, under their supervision, at the Hoxsey Clinic. Both refused. It was then that Chapman got in touch with Senator Thomas, who couldn't believe that the medical establishment would ignore any cure for cancer.

After visiting the clinic, examining records, and interviewing nearly thirty patients and survivors, Thomas wrote to the surgeon general, urging him to investigate the Hoxsey treatment. The surgeon general replied by sending Thomas a copy of a recent *AMA Journal* article about Hoxsey and refusing to spend public funds on any investigation of him. Hoxsey wrote to the surgeon general, offering to pay all the expenses himself. According to Hoxsey there was no answer.

After four months Thomas wrote to Hoxsey, saying, "It seems that the medical fraternity is highly organized and that they have decided to crush you and your institution, if at all possible. I have had a few 'rounds' with the heads of all the medical organizations as well as the Public Health Service here in Washington, and it seems that the public officials are afraid that if they make any move, or say anything antagonistic to the wishes of the medical organization, that they will be pounced upon and destroyed. . . ." When Thomas came up for reelection, he was strongly attacked by the AMA and the Oklahoma Medical Society and was defeated.

Local Oklahoma politicians were also interested in Hoxsey's treatment, and the state legislature approved a resolution to investi-

gate the treatment despite vigorous opposition by the AMA and the Oklahoma State Medical Society. On March 11, 1947, a committee of five senators, five representatives from the Oklahoma state legislature, and three medical advisers came to visit the Hoxsey Clinic and hear testimony from patients and ex-patients. The legislature and doctors heard the cases, then asked Hoxsey to present records documenting what they had heard. The medical advisers said they would visit that evening to help Hoxsey select the pertinent material, but they never came. Senator Homer Paul, presiding officer of the committee, asked Hoxsey to go through his files and select sixty fully documented case histories for the committee. Predictably, according to Hoxsey, after several weeks the committee reported to the Senate that Hoxsey's treatments were ineffective against internal cancers and were also toxic. Only Senator Paul disagreed: he delivered a speech to the Senate a few days later contradicting every point made in the medical report.

At the end of 1947 the Texas State Medical Board again charged Hoxsey with practicing medicine without a license. According to the suit, Hoxsey performed surgery on Mrs. A. M. Richards, a woman with metastasized breast cancer, who died as a result of his treatment. Hoxsey maintained that all Mrs. Richards's cancer disappeared after she was treated at his clinic. She decided to have the last remaining bit—a mass under her arm which Hoxsey says had shrunk to half its original size—removed surgically. At the recommendation of Hoxsey's chief of staff she had it removed by Dr. Harry Taylor, an osteopathic surgeon of Lewisville, Texas. After surgery Mrs. Richards had X-ray treatments and died nearly a year after she stopped the Hoxsey treatment.

The trial ended in a stalemate when Hoxsey and members of his staff completely denied and disagreed with the testimony of the state's witnesses. At a second trial, a \$75,000 suit brought against Hoxsey by Mrs. Richards's husband, the charge was reduced to negligence that contributed to the death of Mrs. Richards. But the jury ruled in Hoxsey's favor on all twenty-three issues handed down to them by Judge W. L. Thornton, who later said the trial was "the most important case in the last 100 years."

The next attack on Hoxsey was in the February 15, 1949, issue of *American Weekly*, a Hearst Sunday supplement. It was written by Morris Fishbein, M.D., editor of the *AMA Journal* and Hoxsey's

longtime adversary, and by William Engle, a feature writer for Hearst.

The history of the article dated back to 1946, when Hoxsey was visited by a skeptical Hearst reporter, William McCullam. McCullam had been assigned to interview Hoxsey for the *New York Journal-American*, then a leading Hearst newspaper. Hoxsey invited McCullam to visit his clinic and to stay as long as he liked. McCullam came with a New York doctor named Lucas and the two of them spent a week at the clinic, painstakingly interviewing and investigating everything. At the end of their stay Lucas announced to Hoxsey, McCullam, and a friend of Hoxsey's, "There's no question in my mind that the Hoxsey treatment benefits some types of cancer. Whether it benefits all types, I am unable to say at this time. It definitely merits further investigation." Privately Lucas told McCullam that he was going to do nothing, even though he felt Hoxsey's treatment was beneficial, saying, "When you're as old as I am, you'll realize that discretion is the better part of valor."

Shocked, McCullam told Hoxsey what Lucas had said and then asked Hoxsey if he could stay another week to investigate further. At the end of the second week, completely convinced that the Hoxsey treatment had good results, McCullam returned to New York and wrote six objective, heavily documented articles for the *Journal*. The science editor turned the articles over to Morris Fishbein, who convinced him that Hoxsey's treatment was worthless and that McCullam had been deceived by a quack. Fishbein persuaded the paper to publish an exposé of Hoxsey instead.

Called "Blood Money," this article appeared in *American Weekly*, read by some twenty million people. The piece depicted Hoxsey as a malevolent cancer charlatan and repeated many allegations that Fishbein had been printing for years in the *AMA Journal*: that Hoxsey's father had died of cancer, that there was no scientific proof that Hoxsey's survivors had ever had cancer, that Hoxsey never supplied proof that his methods worked.

Hoxsey sued Fishbein, Engle, Hearst, *American Weekly*, Hearst's Consolidated Publications, Inc., and the *AMA*. Fishbein, Hearst, Engle, and the *AMA* refused to accept the summons, and since they were headquartered or lived outside the court's jurisdiction, there was no way they could be made to appear, but the article had appeared in a Texas Hearst paper and Hearst Publications had to defend the action.

Like so many Hoxsey trials, this one featured a score or more patients and former patients testifying that Hoxsey had cured their cancers and, on the other side, doctors who recanted their original diagnoses of malignancy and who admitted they had never used Hoxsey's methods, yet testified that they didn't work.

The judge declared that the article did contain libel and slander, was careful not to pass judgment on the merits of the Hoxsey treatments, but said that Hearst was not motivated by malice, but "... a mistaken sense of public duty." Since the article did not damage Hoxsey or decrease his earning power, he was awarded token damages of one dollar and another dollar on behalf of his father.

Morris Fishbein was waiting to appear as a surprise witness in the case, and when Hoxsey found out that he was in town, he had him served with a summons for libel. Fishbein, who later that year was fired by the AMA, tried to put off the trial for as long as he could, and did manage to delay it until 1952.

This trial was a great triumph for Hoxsey. After he had presented several recovered patients who had had external cancers, the lawyer for the defense rose and said, "All right . . . we'll admit you can cure external cancer. We're not arguing about external cases, it's internal we're interested in!" This was a tremendous victory. Hoxsey wrote, "For years Fishbein and the AMA had insisted that my treatment wouldn't even cure warts. Now they publicly admitted that we cured external cancer." But, Hoxsey went on to say, ". . . it was too little and too late. Before we were through, we intended to prove that we cured internal cancer as well."

Throughout the more than three-week trial Hoxsey attacked Fishbein vigorously, and at its end the jury decided in Hoxsey's favor on every one of thirty-four issues enumerated by the judge. It ruled that many specific statements made in the article were false and, in general, that the article was not written ". . . in good faith, upon reasonable grounds for believing the matters stated therein to be true." It found that Fishbein had "acted with malice in doing the things inquired about."

The judge in this case, the same Judge Thornton who had ruled in Hoxsey's favor in the Richards case, said of the fifty patients who had testified in the Fishbein case, that "I am of the firm opinion and belief that Hoxsey has cured these people of cancer. And the fact that this jury has answered all questions proves that Hoxsey had been done a great injustice and that the articles and utterances by

defendant Morris Fishbein were false, slanderous and libelous." The judge did not give Hoxsey a monetary award, but charged the defendant for the costs of the case, and said, "I feel that this will give Hoxsey a clear vindication, which I know he was seeking far more than he was a money judgment."

In 1950 Hoxsey tried once more to persuade the NCI to investigate his methods. This time he sent them the formulas of his preparations and details of the treatment and seventy-seven completely documented case histories, once again with microscopic proof of malignancy where obtainable and doctors' and pathologists' names where it was not. Dr. J. R. Heller, then director of NCI, wrote back saying that there were deficiencies in the material Hoxsey had sent. Hoxsey and his staff prepared more material, but Heller responded on November 1, 1950, that the National Advisory Council said the records did not meet with their requirements and that no investigation by NCI could therefore take place.

On November 15 Hoxsey was charged with violating the Food, Drug and Cosmetic Act because of pamphlets mailed out about the Hoxsey treatment. The government charged that the pamphlets "falsely represented" the Hoxsey medicines "as effective cures for cancer. . . ." This was a critical charge. Although Hoxsey had again been frustrated in his attempts to get a fair trial for his treatment by the NCI, here was an opportunity to have a public trial of the Hoxsey treatment by the U.S. Government. On the bench was Judge William H. Atwell, then an eighty-one-year-old jurist, whose decisions had been reversed only twice in twenty-seven years. Judge Atwell had been the presiding judge in the Hearst libel suit and had been careful not to comment on the efficacy of the treatment, but at this trial he would *have* to. The state had a number of experts in every field; however, all but one admitted that they had never treated human cancer nor examined any Hoxsey patient. Many of these experts changed some of their original statements, admitting, for example, that potassium iodide might be beneficial. One NCI official admitted that the NCI had not verified any of Hoxsey's cases with original physicians because it had been ordered not to by the National Advisory Cancer Council.

Judge Atwell ruled for Hoxsey, including in his findings that Hoxsey's treatment did cure or relieve some, that the statements in the pamphlets were neither false nor misleading, and that the ben-

efits of Hoxsey's treatment compared favorably with those of traditional cancer medicine without their dangers.

However this victory was short-lived. The attorney general's office appealed Judge Atwell's decision and the U.S. Circuit Court of Appeals reversed it.

Although Hoxsey's attorneys tried, there was no way to get around the ensuing government injunction. Hoxsey no longer shipped the problematic pamphlets, no longer sent the medicines to doctors in other states; but required every Hoxsey patient to have the medications prescribed by a doctor at the Hoxsey Clinic and filled in its laboratory. The FDA accepted this arrangement and for a few years Hoxsey was able to continue his work.

But the AMA triumphed in the end. In May of 1957 Hoxsey turned his clinic over to osteopathic physician and surgeon Harry R. Taylor, and in 1960 the Food and Drug Administration obtained a permanent injunction banning the sale of all Hoxsey medications. Taylor was forced to close the clinic. Even today no American doctor can legally dispense Hoxsey's treatments. To obtain them patients must visit the Bio-Medical Center, the Hoxsey clinic in Tijuana.

The center itself is a compact, square white building at the edge of the city, at the top of a gargantuan hill. For the last two blocks it's straight up, almost an eighty-degree angle. Through a car's windshield one can see nothing but sky.

When I visited there, the small parking lot outside the white-washed building was full of people, leaning on cars, standing quietly, or chatting with each other to pass the time as they waited to see one of four doctors or for the results of lab tests, including diagnostic X rays. Patients and their families overflowed the sunny waiting room, where chairs and couches were full. They sat in chairs in a long, dark, narrow hallway, lined by treatment and examination rooms. The clinic saw seventeen hundred new patients in 1978; they treat between seventeen and twenty-five patients a day, some returning for a six-month or two-year check. Mildred Nelson told me that following in the tradition of the promise Hoxsey made to his father, although fees are set for everyone, indigent patients never receive a statement or a bill. Today the fee is one thousand dollars, and even if a patient is discharged as cured, he can return to the clinic for free medical consultations for the rest of his life. Mickey Sanchez, a petite, dark-haired California woman with metastasized thyroid can-

cer, told me in a soft but determined voice, "It's such a good feeling to be able to come here, so different from the atmosphere in the oncology department at Orange County."

All the patients and their families were genial, eager to share information. When I mentioned the atmosphere to Mildred Nelson, she said, "You wouldn't think they'd been given a death sentence, would you?" And indeed most of the patients at the busy center, like most of the patients I met at other alternative centers, came only after doctors in the United States had told them that traditional cancer medicine could offer little more. On the November 1978 day that I was there, though most of the patients I met lived on the West Coast, some had come from as far away as Washington, D.C. What had brought them here rather than to the more highly publicized Laetrile clinic, also in Tijuana? Many had based their decisions on case histories they had read in Harry Hoxsey's book. One man was there because his chiropractor brother had seen a few of his patients do well on the therapy; some came at the urging of friends who had been helped by Hoxsey's treatment.

Wes David is a Hoxsey patient who has sent many patients to the center. David is a seventy-four-year-old Bakersfield, California, man who had a huge mass removed from his neck in 1958. Afterward he was told by his doctor, John Gregory, that he had an anaplastic squamous cell carcinoma and that he probably had only six months to live. When I talked to him early in 1979, he told me of that time. "I was getting to the point where I couldn't stand for more than ten or fifteen minutes; I'd just get worn out. I knew there was something wrong with me, but I didn't know what it was, and of course I had this lump on the side of my neck. Today I work ten hours a day easy and it never even fazes me anymore." David and his son-in-law are developing some land and, he explained, "The fact of the matter is I got right down in the ditch and helped my son-in-law put in the water lines and all that, with a pick and shovel."

Back in 1958, when Dr. Gregory gave him the grim prognosis, David never would have guessed he would be alive in 1979 to do anything. "That's quite a thing when they tell you you've got six months to live, you know. Your father's died of cancer and you think your mother's died of cancer and so you think, 'Well, this is it for me.'" But David's wife was not about to let her husband die. As soon as he got out of the hospital, she said, "Let's go to the library and

read up on all we can find out about this type of cancer you have." Their library visit was not comforting, as the material they found confirmed Gregory's prediction.

Buoyed by his wife's spirit, however, and his own determination, David told me, "I had a lot of faith. I felt somehow I was going to make it. I didn't know exactly how. I felt that God had led me more or less into this way I had taken." The way was shown to him by a friend named Rufus Turner, who when he heard of David's diagnosis called him in sympathy and told him, "Why don't you come up and see me. I want to tell you something."

Several years earlier, when Wes David's father's liver cancer was diagnosed, David had visited Turner, who had had cancer in the left eye but who had somehow gotten rid of it. "When I got up there that first time, when my dad was so bad," David said, "Rufus told me the whole story—how he was scheduled to go into the hospital and have his left eye taken out and then heard about a doctor in Van Nuys, California, who was highly in favor of the Hoxsey treatment. He drove down to Van Nuys, talked to the doctor, and the doctor convinced him that before he let them take the eye out, he ought to go let the Hoxsey people look at it." Turner then went to Dallas, Texas, went on the Hoxsey program, and had no more problems with his eye.

Excited by Turner's story, David rushed to tell his father and his father agreed to try it. By the time he went to Dallas, his cancer was far advanced, and his own physician didn't think there was a chance he could pull through, but the doctors at the Hoxsey Clinic gave him the tonic. Mr. David never took it. Once back home, when his physician, an old friend, found out he had been to Hoxsey, he was outraged. Even though the doctor thought the old man was finished, he told him that if he ever took any of Hoxsey's tonic, he wouldn't treat him. "He didn't take any more of it and he passed away," David told me. "I'm not saying if he had taken it he wouldn't have passed away, but at least there was some hope there."

When David went to see Rufus Turner about his own cancer, Turner showed him a letter from a friend describing a treatment used by a doctor in Monrovia, California. "I think this is the same thing I took," he told David. "Why don't you go see what it's all about?"

David drove down to Monrovia where Dr. Thelma Arthur lec-

tured him vigorously. "Don't you know that if a cancer is cut off here," she thundered, slapping him on the shoulder, "that it will come back here, or here, or here?" slapping him on the thighs, arms, chest. "It's your cells that are crying out every day to be fed the right food. If you give them the wrong food, it throws off your body chemistry and affects every cell in your body."

"The more she talked," David told me, "the more it began to make sense to me, and that's when I fell for it." David told her he would go ahead with the treatment, but first he wanted to go home and tell his wife and consult with Dr. Gregory. His wife agreed and Gregory said, "I don't have much faith in it, but all we want you to do is get well. Go ahead as far as I'm concerned."

"So I did, and that was it," David told me.

He started on a dose of the tonic that was too strong for him and developed some sores, so Arthur reduced the dosage. Finally he was able to tolerate a teaspoon before each meal and a teaspoon before he went to bed. "All at once I noticed that I began to feel stronger. It probably took about six months all together before I gained my strength back." During that time his blood picture improved as well. He started the diet along with the tonic, switching from a diet heavy with fried foods to one full of natural whole foods, fresh vegetables and fruits, and lots of sprouts. "I enjoyed it, really. It was kind of a new thing." Today he also follows Dr. William Kelley's program, eating no animal protein after 1:00 P.M. and taking vitamin and mineral supplements.

David was treated by Dr. Arthur for two years, and when she was pressured to leave California, he was treated by another doctor for two years until the Hoxsey treatment was completely outlawed in California. For four years David didn't take anything, then the lump in his neck started to grow again, and so he went to Mexico for more tonic, which once again was effective. David has been free of recurrences ever since.

Bruce Taber is another long-term survivor who credits the Hoxsey method with his recovery. In 1955, when he was seventeen, Taber was diagnosed as having Hodgkin's disease. His mother didn't tell him that was what he had until about a year afterward, when he was well on his way to recovery. At the time, Taber was told that he had a blood disease and that it wasn't really serious, though he believed it was. When I spoke to him early in 1979, he told me that

he hadn't been feeling up to par for about a year. He had been run down, tired easily, and had blacked out a couple of times. He had been playing basketball, but practice was so fatiguing that he finally dropped out. "I smoked cigarettes," he explained, "and I blamed it on smoking.

"Then one night, in a movie house, I found this lump in my throat. Apparently it had just come up. It was pretty sore and the next morning I had about three of them. I had an uncle who was an M.D. and I went to him. He said, 'It's maybe nothing,' and seemed to think it wasn't too serious. He said, 'Let's give you some antibiotics and see if it doesn't clear up.' "

But antibiotics didn't help, and after a couple of weeks Taber's mother took him to St. Joseph Infirmary in Louisville, Kentucky, where doctors biopsied a lymph node and found it to be malignant, an example of Hodgkin's. Once the cancer was diagnosed in mid-March of 1955, Taber received two weeks of radiation therapy and a total of twenty-four milligrams of nitrogen mustard. "The nitrogen mustard was pretty nauseating and jerked me down quite a bit physically, and it took a while to get over that," he told me. When the infirmary was finished treating him, his doctor told Taber's mother that although her son's cancer was in remission, he probably had only about eight months to live. After the chemotherapy he weighed only 125 pounds distributed over his almost six-foot-four-inch frame. "I was pale, anemic looking—skin and bones," he described it. His lymph nodes were still enlarged and he felt weak and exhausted.

The future looked dismal for young Taber, but his mother did not accept the doctor's prognosis. Taber described his mother to me as a tough, intelligent, educated woman, a schoolteacher and principal who, widowed early in her marriage, raised Taber by herself, not remarrying until he was thirteen. After he was diagnosed, whenever she was overcome by worry about her son and didn't know where to turn, she prayed hard for help and guidance. Thus when a man from an adjoining county contacted her and told her he knew of a place that might help Bruce, she felt a flash of relief, an overwhelming feeling that this was the answer to her prayers.

In July 1955 she and her son went to the Hoxsey center in Dallas. "It was an old Spanish-type home, a great big house in an exclusive neighborhood. It had been converted into a clinic, and

when I went down there, that place was packed. There must have been about five hundred patients. I mean, they had a veranda and a porch all the way around it and there were people everywhere. It was like that in Dallas every time I went."

Taber told me that he went back every six months and that he often saw the same patients. "I recall several people who were in wheelchairs or on stretchers, who had been too weak to walk when I first saw them, who would be back walking and would not even look like the same person. I've seen all kinds of people who looked horrible, looked like they had leprosy, and I've seen them six months or a year later and all they'll have is a clean-looking scar." Taber, too, began to recover quickly. About three months after he went on the diet and began the treatment, his weight was up to 145 and within a year it had reached 170. His energy came back, he began to feel better, and his lymph nodes reduced in size. The last time his original physician at the St. Joseph Infirmary saw Taber in 1977, he was amazed that Taber was doing so well. He told Taber that he had heard of other people being cured of Hodgkin's, but that Taber was the only one of his own patients to have survived.

It is true that Taber had had orthodox therapy for his Hodgkin's, but when he began the Hoxsey therapy, three months after he had completed radiation and chemotherapy, he still had swollen lymph nodes, a sign that his disease was active. And, as the surprise of his physician illustrates, the medical treatment Taber received for his Hodgkin's was extremely primitive, with nowhere near the good results claimed by today's medical therapies.

Taber never told his physician at the St. Joseph Infirmary about his experience with Hoxsey. He feels it would be useless and wants to keep the man's goodwill. Taber said to me, "You wouldn't think this would happen in America, would you? Whether the American Medical Association believes in it or not, people should still have freedom of choice. People shouldn't be run off to Mexico."

Today, because his story appears in a pamphlet distributed by the Bio-Medical Center, Taber gets many calls from cancer patients seeking to verify his case and to get advice from him. He gives his callers information about the clinic, but tells them it's their decision whether to go or not. Hoxsey, he pointed out, while right for him, is not the only alternative. "I just happened to luck into this," he said, echoing a familiar refrain of cancer survivors.

He also stressed to me that he thought the will to fight was extremely important in his case and in every other case. Even though he didn't know he had Hodgkin's, he knew his disease was serious, knew he couldn't give up.

"I think the person has to have a little bit of fighting spirit and not be willing to just lay down and die because somebody tells them that they're going to. I think that has a lot to do with it. The people that I've seen and talked to all seem to have a fighting spirit, that they just weren't going to roll over and play dead, they weren't going to give up that easily." In Taber's case it wasn't only his own fighting spirit, but also his mother's indomitability that helped pull him through.

Hoxsey's opponents frequently suggested that his tonic was useless, that he talked his patients into living with the force of his personality and will. Mildred Nelson disagreed. But she did tell me that Hoxsey was persuasive and positive. "He was an artist, an absolute artist at convincing you you should do what was right." Tenderhearted, shrewd, outgoing, Hoxsey was totally devoted to his life's work. "He never took a vacation," Mildred told me. "He never was away from the clinic except when he had to be out of town on clinic business."

She also believes that many remarkable recoveries can be credited to determination. "Some of them come in here and I think we can't even help them. Then, after a period of time, you think, 'Oh, they weren't that sick.' Then you get to reading the record and you realize they *were* that sick!"

However it wasn't always the determination of Hoxsey or the patient that would pull the patient through. Mildred told me the story of an unconscious man, a hospitalized stomach cancer patient, whose doctor told his wife that her husband was dying. She told the doctor, "Well, I'm taking him home."

The physician looked down at the distraught but proud woman standing before him in the hospital hallway. "Oh, Mrs. Burleson," he said, "you can't do that. Call the children, because he's dying."

"No. I'll let him die on the way to hell before I'll just let him lie here and do nothing," she said, and she swept past the doctor to make arrangements to have her husband taken to the Hoxsey Cancer Clinic in Dallas. Mrs. Burleson had had a malignancy of the jaw years before, and it had been successfully treated by the Hoxsey

medications. When Mildred saw her at the clinic, she stopped her and asked, "Are you here for a checkup?"

"Oh, no. Mr. Burleson is very sick. I've got him out there in the ambulance. He's unconscious."

"Unconscious!" Mildred said, shocked. "But, Mrs. Burleson, you know we can't give him the medicine if he's unconscious. It doesn't work that fast."

"I brought him in so *I* could give him the medicine," Mrs. Burleson replied. "I want some of the tonic and I'm going to take him home."

"You can't do that," Mildred protested.

"Yes, I can," the woman said. "Now, Mildred, I'm counting on you to help me. I don't have time to talk." Mildred gave her the medicine.

Although Mr. Burleson was unconscious and didn't respond to any stimuli, for three weeks his wife stayed by his bedside feeding him and giving him the Hoxsey medicine with a medicine spoon. "The man lived for a number of years and finally died of the Asian flu," Mildred finished. Mrs. Burleson's dedication and faith, her will that her husband should survive, helped pull him through.

Her conviction undoubtedly came in part from her past experience with Hoxsey. It had worked for her before and she believed that it would work as well for her husband. Mickey Sanchez said, "You have to believe; you have to have faith. You *have* to say to yourself, 'I believe that this medication is going to help me.' If you take it with a negative attitude, or with doubt, then it's not going to be effective."

The belief is what helps patients stick to the program. Mildred told me that Hoxsey's best results come from patients who follow the diet faithfully and take the medicine as it's prescribed. "A lot of the time," she explained, "that's the reason we don't get results with some of the patients. You know, the family won't push them or help them to get it done, and they won't do it. Basically some people just will not discipline themselves, for anything. Not even for life."

Since 1960 there has been no attempt at a medical investigation of the Hoxsey treatments. Mildred Nelson claimed an almost 90 percent cure rate, but this seems inflated. Yet several nutritional physicians express respect for the therapy, saying that patients they see seem to do well on it.

7. IMMUNE THERAPIES

Scientists have known since the end of the nineteenth century that within the body there are certain specialized cells and their products all of which make up the immune system. This network destroys viruses and bacteria and attacks transplanted organs and other foreign substances in the body in a continual process known as immune surveillance. During the past three decades evidence has accumulated that this system can also recognize cancer cells as foreign and destroy them as they arise. In the mid-1970s cancer researchers began to investigate ways to stimulate the immune system to destroy existing tumors. By 1978 the media had introduced the lay public to such immune system stimulators as hyperthermia, BCG, interferon, and, most recently, monoclonal antibodies.

It is in immune therapy that the distinction between conventional and alternative treatments begins to become blurred. The scientific observation on which immunotherapy is based—that cancer cells can be destroyed by the body itself—is a strong confirmation of the basic concept of the nontoxic therapies—that the cancer patient's body can be strengthened to break down and eliminate tumors. The nutritional therapies approach this goal indirectly, while the immune therapies attempt specifically to stimulate those parts of the immune system that destroy cancer cells.

Formerly rejected approaches that directly stimulate the im-

mune system—some of which date back to the turn of the century—are currently being studied at establishment cancer centers. For example, various forms of hyperthermia, or fever therapy, which have undergone successful clinical trials in the past decade, were used by European and American physicians and researchers at the end of the nineteenth century but failed at that time to win the endorsement of the medical establishment.

It is not yet possible to compare immunotherapy's results with those of other standard therapies. Immunotherapy remains experimental and is still used almost totally as an adjunct to surgery, radiotherapy, and chemotherapy. Adding it to these modalities has increased survival times, however, and nearly all cancer workers agree that immunotherapy has enormous, exciting potential. There may be disagreement about methods and specific techniques, but many researchers anticipate that within the next twenty years immunotherapy will evolve into a vital aspect of cancer treatment.

ORTHODOX IMMUNOTHERAPY

The body's immune system is a complex network stimulated by antigens, proteins that are foreign to the body; viruses and bacteria are antigens. Monster cells called macrophages engulf these foreign invaders, swallowing them whole. Other kinds of cells attack in different ways. The bone marrow produces two types of defensive white blood cells: T-lymphocytes—which mature in the thymus gland—and B-lymphocytes. The T-lymphocytes stalk the blood-stream, seeking abnormal cells to wipe out; B-lymphocytes produce protein antibodies that are attracted to antigens, combine with them, and poison the cells on which they are found.

The action of antibodies is multiplied as much as a thousandfold by another part of the immune system, a group of peptides and proteins called the complement system. Dr. Robert A. Good, former director of the Sloan-Kettering Institute and one of America's leading immune researchers, describes these specialized cells and proteins as the hands and fingers of the immune arms, saying, "They work together and really control and modulate and keep us in balance with respect to immunologic function."

THE SEARCH FOR A PATHOGEN

If cancer were caused simply by a virus or bacterium, then scientists could develop an anticancer vaccine by isolating the microorganism, killing or weakening it, then injecting it into healthy people to prevent cancer, or into cancer patients to jolt their immune systems into action. In fact the search for such a pathogen began at the end of the nineteenth century. Many researchers assumed that cancer was an infectious disease, and like smallpox, tetanus, and diphtheria, would be eliminated by a new vaccine.

Through the years European and American researchers and physicians have identified a microbe that they claim to have observed in connection with *all* cancers. In 1886 one German researcher found a cancer bacillus that caused tumors in healthy animals; in 1895 two French biologists made a serum from animals inoculated with cancer cells and reported that it caused a reduction in the size of tumors. None of this work was accepted by the medical establishment.

The leading contemporary physician to have observed such a pathogen is San Diego's Virginia Livingston, M.D. Since 1947, with her associate, microbiologist Eleanor Alexander-Jackson, Ph.D., Dr. Livingston has repeatedly isolated the same microorganism from every cancer of man and animal. She has also shown that this organism can cause cancer when it is injected into animals. Dr. Livingston believes that this organism is present in every living thing, but that a healthy immune system checks its growth. It causes cancer only when a weakened immune system allows it to multiply without restraint.

She describes this bacillus as pleomorphic: that is, capable of changing forms at different stages of its development. She says it is the same microbe that has been observed for two hundred years by various researchers. Because it can appear in so many different shapes, each researcher has called it something else. Dr. Livingston has named it *progenitor cryptocides* and claims that it belongs to the same family as the leprosy and tuberculosis microbes.

Dr. Livingston cultures this microbe from cancer patients to produce an autogenous vaccine. Her treatments are aimed not at curing cancer but at strengthening cancer patients' immune systems. These have produced survivors; however, the therapies she

uses include more than the vaccine alone: She also treats cancer patients with nutritional and other immune therapies. Therefore the autogenous vaccine, by itself, has not been as successful as those developed for other infectious diseases.

There is a strange silence surrounding Dr. Livingston's studies. Her experiments have been published in such respected journals as the *Annals of the New York Academy of Sciences* and seem sound. But her work has never been replicated, and she is on the American Cancer Society's Unproven Methods list. Her patients, however, respect her enormously for her broad knowledge, compassion, and comprehensive approach.

Everyone in the field agrees that certain specific viruses cause animal cancers. The first was discovered in the early 1900s by Dr. Frances Peyton Rous, who demonstrated that a blood cancer in chickens called malignant leukosis was caused by a virus. Today viruses are implicated in such animal cancers as Lucke's adenocarcinoma—a cancer of frogs—and leukemias of cattle, cats, pike, and gibbon apes.

There is also evidence that viruses are linked to human cancers. For example, there is an association between the herpes simplex virus type II and an increased incidence of cervical cancer. The Ebstein-Barr virus has been associated with Burkitt's lymphoma, a type of cancer prevalent in Africa. However the exact role of these viruses is unclear and to date no antibodies that can treat cancer have been developed from such viruses and viral particles.

HOW CAN THE IMMUNE SYSTEM FIGHT CANCER?

If no viruses have yet been found that cause human cancer, how can the immune system battle cancer cells? Throughout this century there was great resistance to the idea that one part of the body could damage another part—that the immune system could turn against cells in the body, for example. According to turn-of-the-century chemist Paul Ehrlich the body would never destroy its own tissues. This theory, called *horror autoxicus*, was accepted for years.

However contrary evidence began to accumulate. It was discovered that certain diseases were caused by inexplicable stimulation of the immune system. These autoimmune ailments include the

painful inflammations of rheumatoid arthritis and the intestinal condition called Crohn's disease. Researchers found that in these illnesses cells in the afflicted parts of the body had antigens on their surface that triggered the immune system to attack.

Was it possible that cancer cells had antigens? In 1943 Dr. Ludwik Gross first discovered that cancer cells did have these immune markers. Although these cancer antigens released weak chemical signals to attract antibodies, they could be recognized by the immune system. Gross's work was not confirmed for another ten years. It took an additional five years for his work to be widely accepted.

Modern research that enables scientists to isolate and produce cancer antigens offers the possibility of creating anticancer vaccines. In one 1973 study performed by researcher Ariel Hollinshead and physician Thomas H. M. Stewart at the University of Ottawa Medical Center fifty-two lung cancer patients who had had surgery for their disease were divided into two groups. One group received lung cancer antigens and the other did not. After seven years the survival rate was 78 percent in the group that received the antigens and only 18 percent in the group that did not. These results are so striking that further studies are now being conducted in medical centers in America, Canada, England, and France.

In the meantime other scientists were finding evidence that a strong immune system could protect against cancer. There is a body of research, some of it dating back to the turn of the century but much of it done in the past twenty years, indicating that the formation of cancer cells is not a once-in-a-lifetime aberration, but a normal process that takes place in everybody at all times. In 1957 F. M. Burnet, the noted Australian biologist, first proposed that the immune system, as part of normal immune surveillance, recognizes and destroys these abnormal cells. He based this theory on several pieces of evidence, primarily the higher-than-normal cancer incidence in children suffering from certain immunodeficient diseases, and in patients who had received immunosuppressive drugs after transplants to reduce the incidence of organ rejection. In the latter patients studies have shown a fifty times greater incidence of epithelial cancers, including abdominal tumors, than in the normal population. John Wayne, for instance, was given immune suppressors when he had his heart valve transplant in April 1978. It is quite possible that these contributed to the development of his fatal stom-

ach cancer in January 1979—although it is impossible to establish cause and effect in such cases.

Other provocative evidence has suggested that the body has the means to defeat cancer. In 1963 Dr. Chester Southam, now at Jefferson Medical College in Philadelphia, found that cancer patients rejected skin transplants more slowly than expected, indicating to him that they had some immune deficiency. Most of these cancer patients, however, were old and suffered from other diseases. Was it their old age and *its* accompanying immune system failures that accounted for the slower rejection? Southam didn't think so. He theorized that the immune systems of aged cancer patients were more depressed than those of old people who didn't have cancer. To prove this hypothesis he grafted tumor cells into the arms of cancer free old people at the Jewish Hospital for Chronic Disease in Brooklyn (for which the New York State Board of Regents placed him on probation for a year). The grafted cells in these patients were speedily rejected, confirming that his cancer free subjects had strong immune systems. An efficient immune system appeared to protect against cancer. Therapists could now try to stimulate this system in cancer patients, hoping it would kill already existing cancers.

BACILLUS CALMETTE-GUÉRIN

Today's best-known and most widely used orthodox immune therapy is BCG, which stands for bacillus Calmette-Guérin. This is a weakened strain of tuberculosis bacillus that is used to vaccinate human beings against the disease. As early as the mid-nineteenth century European biologists had observed that there was an antagonism between cancer and tuberculosis. American physician G. W. McCaskey, in the July 1902 *American Journal of the Medical Sciences*, reported that an injection of tuberculin—a tuberculosis vaccine—caused a regression of cancer in some patients.

However this relationship was not systematically studied until 1935, when it was rediscovered accidentally by Dr. Israel Homgren, a Stockholm physician. Dr. Homgren was surprised to find that he got no response to the tuberculin skin test when he used it on cancer patients. What he observed was that natural defense mechanisms that would have caused an inflammation after the tuberculin skin test were depressed in cancer patients. Homgren also found that

tuberculosis patients had a lower incidence of cancer than the general population (another fact that had been observed since the nineteenth century). He treated more than a thousand cancer patients with tuberculin. Some began to react to the skin test and tumor growth slowed in some, indicating that tuberculin was stimulating their immune systems.

But because the climate of the time was still not favorable to immunotherapeutic research for cancer, many years went by before Baruj Benacerraf, Donald A. Clarke, and Lloyd Old at Sloan-Kettering Institute discovered that when mice were injected with BCG, they were more resistant to many different tumors. Although scientists are not yet sure exactly how BCG works, they think that it stimulates macrophages to become more active. Several researchers around the world have experimented with BCG with varying degrees of effectiveness. The first studies were done by Dr. Georges Mathé of the Institute of Oncology and Immunogenetics in France, using BCG and a vaccine made of killed leukemia cells on patients with acute lymphocytic leukemia. He used this mixture, combined with the standard chemotherapy, in successful clinical trials, but his achievement has not been duplicated.

BCG has also been used in the treatment of lung cancer. In a study begun in 1973, BCG used after lung surgery decreased recurrence rates in patients with stage one disease. At three years there was a 62 percent recurrence rate in the control group and only a 33 percent recurrence rate in the BCG group. Patients with squamous cell type carcinomas responded best; there was no improvement in survival times in patients with advanced disease.

Because BCG seems to work best when it is injected directly into tumors that can be seen on the skin, it has been especially successful in treating malignant melanoma. A pioneer in this work is Dr. Donald Morton at the School of Medicine at UCLA. In a total of fourteen studies an average of 58 percent of patients have received some benefits, ranging from longer remission times to cures.

Dr. Morton is a vital figure to recovered cancer patient Bernice Wallin. Bernice had watched while her youngest son died of leukemia, despite every effort to save his life. Not too long after his death she found that she had breast cancer, but she was so grief-stricken that the mastectomy didn't matter to her. The same cystic condition that had predated her cancer appeared in her other breast, which

was also removed as a precautionary measure. In 1972, six years after her diagnosis, one year after her doctor had declared her cured, her leg began to ache. X rays revealed metastatic disease in her hipbone.

Now, years after her son's death, life mattered to her again. She had a hysterectomy so her body would stop producing hormones that were stimulating the growth of her cancer. For a while the pain in her leg was gone, but it soon came back worse than before. Her doctor suggested more surgery or chemotherapy, but Bernice had read widely about alternative approaches to cancer, and knew that as chemotherapy and radiotherapy destroy cancer cells, they also destroy bone marrow, suppressing production of the very cells vital to immune function. (Although, as Dr. Robert Good points out, tumors themselves produce substances that suppress the immune system and from one point of view the best way to reactivate the system is to remove the tumor, there is no doubt that chemotherapy and radiation are the most damaging to the immune system, surgery the least.)

One afternoon Bernice read an article about the BCG melanoma program at UCLA and became convinced that BCG could help her. She immersed herself in books and articles about immunotherapy and visited thirty-one doctors to get different opinions to help her decide what to do. After her visits she was still convinced that BCG was the right treatment for her cancer. She made an appointment with a doctor at UCLA to see if she could be admitted to its program. She was turned down. The doctor explained that the research program was supported by a government grant for clinical trials of BCG on melanoma only. She didn't qualify. Scarcely daunted, Bernice made an appointment with another UCLA doctor, who told her the same thing. She saw a third, and then a fourth, each of whom told her that she was not right for the program.

For her fifth appointment she asked to see a woman doctor, thinking that a woman might be more sympathetic. This physician examined her, told her she had swollen lymph nodes, and that if she had these removed, she could enter the program.

Overjoyed, Bernice questioned no further. She sped back to her physician and told him that she wanted her lymph nodes removed. He insisted there was nothing wrong with the lymph nodes, and he couldn't understand what they had to do with BCG treatment. But

Bernice was adamant. This was her chance to get a therapy that she knew would work for her, that made sense to her. She insisted, and he finally agreed to the surgery.

The lymph nodes turned out to be benign and Bernice returned to UCLA as soon as she could, only to find that the woman doctor was gone. The sixth doctor told her that UCLA couldn't accept her in the program. Bernice was horrified. She had been told that if she had her lymph nodes removed, she could get BCG. How could this doctor not let her have it. The physician was firm and told her that BCG wouldn't do any good in her case, that her tumors were too large and had already outstripped the capacity of her immune system to deal with them. Bernice argued that in all her research she had never read anything that said that a healthy immune system couldn't deal with any cancer. The doctor insisted that he knew more than she did and told her there was nothing he could do.

Bitterly angry about the unnecessary surgery, Bernice made an appointment to see Dr. Donald Morton himself. In her book, *I Beat Cancer*, Bernice writes that when she told Morton what the woman doctor had promised, he apologized, but told her that the doctor had been on staff temporarily, hadn't been familiar with the program, and had no authority to tell Bernice that she could be treated with BCG. Bernice presented all her arguments again but Morton held his ground. She finally began to cry. To her surprise Morton agreed to take her into the program if she would sign a form stating that she knew he was making no promises, and that she knew the treatment was experimental.

Bernice did, and in 1975, after two and a half years of painful BCG injections, her cancer was gone. It was her turn to demand a letter from UCLA, confirming that BCG therapy had cured her cancer.

But Bernice's battle was not yet over. She began to feel sick once again; her weight went down to ninety pounds and she felt that if she were to stay healthy she would have to do more. "The BCG may have knocked out my cancer, but I don't think it's enough," she said. She visited Dr. James Privitera, one of California's metabolic physicians, several times. He gave her a great deal of information on the nutritional approach to cancer and Bernice began the diet. She soon started to see Dr. Virginia Livingston, who treated her with autogenous vaccines as well.

Today, Bernice says, "Patients have to really be resourceful. You can't just accept what your doctor says. You've got to read and find out on your own. Now, I think Dr. Livingston is the most brilliant woman in the world and her treatments are keeping me alive. But I keep reading and attending lectures and I always keep up with the latest developments." Bernice is so dedicated to the idea that cancer patients must be informed that she organizes lectures and discussions bringing traditional and unorthodox doctors together. "Today I do everything—the vaccines, wheatgrass, diet, vitamins, enemas. I'll do this for the rest of my life. Cancer patients are never well. You must continue. I've seen patients come to Dr. Livingston who then go off the diet and who get sick again. You've got to *work* on this."

Bernice brings to her current therapies the same enthusiasm and belief she brought to BCG. BCG should not have worked for Bernice Wallin. It has not proved successful with metastasized breast cancer. But Bernice Wallin, whose chances for recovery were only 9 percent, believed in BCG totally; she charged after it like a bull, with a fierce determination because she *knew* it would help her. It was probably no accident that it did.

COLEY'S TOXINS

One of BCG's effects is to produce infection and fever, and fever therapy is another immune approach that is currently getting good results. The technique of fever therapy was originally developed by Dr. William B. Coley, a researcher at Memorial Sloan-Kettering early in the twentieth century. Coley, who was born in 1862 and died in 1936, was a graduate of Harvard Medical School and a surgeon specializing in cancer. He was chief of the bone cancer service of Memorial Hospital in New York and from 1909 to 1930 was clinical professor of surgery and cancer research at Cornell University Medical College.

In 1891 he lost his first cancer patient, a young woman suffering from a sarcoma. He was enormously disturbed by her death and he searched the records of New York Hospital looking for a similar case. He finally read of a man with sarcoma of the neck that kept recurring—until the patient developed erysipelas, a streptococcic infection. He survived the high fever of his virulent infection and his sarcoma disappeared for good. Fascinated, Dr. Coley tracked that

man down and found him still alive and cancer free. Coley reasoned that there must be a connection between the infection and the patient's recovery, so he decided to see what effect infectious agents had on his own cancer patients.

In October 1891 he received a shipment of Group A hemolytic streptococci from Dr. Robert Koch of Berlin and injected erysipelas into a cancer patient, whose cancer disappeared in less than two weeks. Coley tried the bacteria on nine more patients, but they all died from the combined effects of their cancer and the induced infection. Researchers in France had found that when streptococci were grown together with another bacterium, the streptococci became even more virulent. Although this might seem to be the reverse of what Coley wanted, he reasoned that the streptococci released a substance helpful to cancer patients. If the streptococci were made more active, more of this unknown substance would be released.

In December 1892 Coley injected the first batch of streptococci mixed with another vaccine of killed bacteria, called Coley's toxins, into a young man with an inoperable stomach cancer with pelvic and bladder involvement. The man had been told that he had only months to live, but after several months of injections his tumor was gone. He lived, cancer free, until the age of forty-five, when he died of a heart attack.

According to published papers of Coley and his daughter, Helen Coley Nauts, he had good results with a number of cancer patients who enjoyed long survival times. Out of a group of more than 500 patients, traced from five to sixty-six years after the onset of their cancers, 63 developed new cancers from six to fifty-nine years after their recoveries from the first, and 360 recovered completely. He had his best results with sarcomas, lymphomas, some malignant melanomas, neuroblastomas, testicular cancers, and carcinoma of the rectum and colon. Despite his remarkable success rate, Coley was widely regarded as a quack and his toxins were abandoned.

In the early 1960s Barbara Johnston, M.D., now head of medical oncology at St. Vincent's Hospital in New York, performed two clinical trials of Coley's toxins at New York University Bellevue Hospital. In a controlled double-blind study of patients with various kinds of cancers, only one patient of thirty-seven in the control group improved, and this improvement was minor and transitory. In the group of thirty-four treated with Coley's toxins, eighteen showed no

improvement, seven had decreased pain, and nine had an objective response that included death of the tumor, slower appearance of metastases, shrinkage of lymph nodes, and even disappearance of tumors. In an uncontrolled study performed over a period of seven years, of ninety-three patients treated with the toxins, forty-three showed no improvement, twenty showed subjective improvement, and thirty had objective improvements, mainly tumor shrinkage, lasting for various lengths of time.

Coley's ideas seem to be back in favor: the toxins were removed from the American Cancer Society's Unproven Methods list in 1975 and a scientific explanation for the action of the bacteria has been advanced. According to this theory, Coley's formulations contain substances called endotoxins that stimulate the immune cells, macrophages, to release a substance that kills cancer cells. Despite what seems to be a more favorable climate the toxins are still not available for treatment and no studies are now taking place.

HYPERTHERMIA

Before the macrophage theory several researchers theorized that the high fever itself was responsible for Coley's cures. In tissue culture cancer cells are damaged by a temperature of 39°C and die at 43°C, which is about one to one and a half degrees lower than the temperature that destroys normal cells. Cancerous tissue also has a poor blood supply, making it harder for heat to escape into surrounding tissues.

More than forty universities and cancer centers throughout the country are now developing and testing various methods of killing tumors with heat. These include techniques that treat only the tumor, methods that heat an entire region of the body, and whole-body hyperthermia.

Physicians were experimenting with localized hyperthermia to treat cancer as early as 1918. In a *New York Medical Journal* article of that year M.D. Albert C. Geyser reports using a diathermic current to heat tumors on the body surface and in all accessible cavities to 108°F for an hour a day. He writes, "Cachexia [wasting] disappears; the patient gains in weight. Sometimes the tumor mass disappears entirely, sometimes it simply becomes smaller. All of my early patients are alive, they have not been mutilated, they are not now

aware of the usual consequences which always accompany malignant growths."

Yet this approach was ignored until the late 1970s, when contemporary researchers achieved strikingly similar results. In 1976 Dr. Harry LeVeen, then at the Veterans Administration hospital in Brooklyn, New York, now at the Medical University of South Carolina, first reported successfully using radio-frequency energy to destroy tumors in a group of twenty-one patients with different types of cancer. In 1980 Dr. LeVeen reported tumor regression in eleven of thirty-two inoperable and otherwise untreatable lung cancer patients. Six patients became completely disease free, with two still alive and well after three years. The other four had been followed for a shorter time, but LeVeen expected that they too would become long-term survivors. He also reported, "There was dramatic systematic relief in 27 of 32 cases with return of appetite, weight gain, gain in strength, and, in general, considerable improvement . . . Pain relief was accomplished in 21/25." Secondary metastases were also seen to disappear after treatment of the primary site, indicating that localized heat was somehow stimulating the entire immune system.

Ultrasound has also been used successfully to kill superficial tumors which can then be removed surgically.

Another localized technique developed by Dr. Michael R. Manning at the University of Arizona combines heat with radiation. In his studies needles were used to heat tumors. Tumor shrinkage of at least 50 percent was observed in forty-three of forty-seven patients. In twenty-four patients tumors disappeared completely, and twelve patients, whose conditions had been judged grave or terminal, have been cancer free for up to two years after treatment.

Surgical oncologist John S. Stehlin at M.D. Anderson developed a regional technique. Beginning in 1957 Dr. Stehlin had pioneered regional perfusion of chemotherapy: to reduce whole body toxicity the chemotherapeutic drug was perfused only through the affected limb. In 1967 Dr. Stehlin added heat to chemotherapy. He withdrew blood from the patient, heated it externally, mixed it with the chemotherapeutic drug, then returned it to the limb to recirculate. He has now treated more than two hundred patients with a combination of chemotherapy and hyperthermia. In a retrospective controlled study of sixty patients with advanced malignant melanoma

of the arms or legs, he found a 300 percent increase in the number of five-year survivors, from 22 percent in the thirty treated with chemotherapy alone to 74 percent in the thirty patients treated with the combination. The average survival time has been longer than seven years, with many patients still alive. With conventional treatment 80 percent of these patients would have died of metastases within five years—even with amputation of the affected limb. No amputations were necessary in the patients treated with hyperthermia.

There are two different approaches to whole-body hyperthermia. One involves perfusion with heated blood that circulates through the whole body. The technique takes about thirty hours, during which patients are lightly anesthetized to control discomfort associated with high fevers. Body temperature reaches 41.5°C for four hours with fifteen-minute spikes of up to 43°C. M.D. Leon Parks of the University of Mississippi Medical Center Department of Surgery has treated about two hundred patients with more than seven hundred whole-body perfusion treatments. In a study combining hyperthermia with other therapies to treat a variety of cancers, 14 percent had complete regression of all detectable tumors; 12 percent had a regression of more than 50 percent, and 24 percent had a smaller response, but one that was still measurable. These patients would have had an average life expectancy of one to two months with conventional therapy—92 percent had not improved with surgery, radiation, and chemotherapy—but 30 percent of 139 patients survived longer than six months, with an average survival time of eleven months. Eleven percent of these patients survived longer than one year.

Dr. Donald Cole, the Long Island, New York, surgeon who employs a number of alternative and conventional therapies to treat cancer patients, uses another form of whole-body hyperthermia. He anesthetizes his patients and wraps them in two specially constructed blankets filled with hot water to raise their body temperatures to 108°F for two or more hours, with another two hours at 107°F.

He explains the action of his hyperthermia as a heating up of the tumor to a high enough temperature to destroy it; the artificial fever then stimulates the whole immune system, just as a natural high fever does, and when the tumor breaks down, it probably emits

certain protein breakdown products that also stimulate the immune system. "I think the Coley toxin effect was similar," Cole stated. "The difference was that it was not a controlled situation; it was a spiking rather than sustained fever, and it was extremely unpleasant for the patient because he was fully awake during this whole thing. The technique now is a sustained, very carefully monitored, and very carefully controlled patient and fever. It's a different ball game." Over a six-month period, Cole told me, in 50 percent of his patients tumors diminished at least 50 percent, sometimes more. Traditional cancer researchers claim that the use of water blankets is unsatisfactory because heat does not penetrate the skin very well, but Cole points out that in an hour to an hour and a half the blankets raise the core temperature to the required level.

There are certain problems with the use of heat therapy. First there are significant dangers in whole-body hyperthermia. Heat causes veins to dilate. It also increases the body's demand for oxygen, and cardiac output is twice normal during hyperthermia. High body temperatures may also cause brain damage, although none has been observed. Researchers are still trying to find the most effective way to heat tumors, the optimal dose and schedule of heat treatments, and the best combination of hyperthermia with chemotherapy and radiation. Some drugs, like bleomycin, work well with hyperthermia, while others, like actinomycin D, are antagonistic.

Other immune approaches must overcome different challenges as well. With BCG and other immune stimulators, for example, patients have experienced side effects ranging from inflammations at the injection site to flulike symptoms similar to the healing crises of nutritional therapies: malaise, muscle aches, and high fevers. Most important, both at very low and at high doses antigens can partially suppress immune response because of complex interactions within the immune system. Because of this, in some situations immunotherapy might even stimulate rather than slow tumor growth. To prevent this, immunotherapists must at all times monitor the delicate balance between tumor and host.

INTERFERON

Some substances must still prove themselves. One that at this moment seems to be a very expensive blind alley is interferon, a large

protein molecule discovered in 1957 by two British scientists, Alick Isaacs and Jean Lindenmann. Created by white cells in response to viral infections, interferon triggers a mechanism within each cell that keeps viruses, bacteria, and protozoa from multiplying. It could be helpful in the treatment of cancer because it also changes the rate at which cells reproduce and stimulates production of lymphocytes and macrophages. In 1977 Dr. Hans Strander of the Karolinska Institute in Stockholm reported that interferon helped to prevent metastases in patients with osteogenic sarcoma, multiple myeloma, and papilloma of the larynx.

In 1980 the American Cancer Society mounted a giant campaign promoting interferon as the most promising cancer news in decades, implying that the substance eventually would reveal itself to be a cancer cure. At that time interferon was extraordinarily expensive. Because it could be obtained only from specially treated human blood—scarce and available only as a by-product of blood donations—its cost was a staggering fifty million dollars a gram. Yet NCI contracted to buy it and the American Cancer Society invested \$5.8 million in the material. Because of the early excitement drug companies also invested hundreds of millions of dollars in the search to produce interferon more cheaply, and today, using gene-splicing technology, the cost has dropped substantially.

Observers from the alternative camp were skeptical, pointing out that the ACS's enthusiasm about interferon coincided with its annual fund-raising drive; they also cited research showing that interferon could have been available at a much lower price. Vitamin C stimulates the body to produce interferon and lymphocytes. Inexpensive nutritional changes may stimulate the entire immune system. It seems ironic that before investigating such low-cost but indirect methods of immune stimulation, the cancer establishment has spent hundreds of millions of taxpayer dollars to synthesize one material.

And its worth? To date after two years of testing interferon has not lived up to its advance publicity as a cancer treatment. Only small antitumor effects have been shown. There have even been troubling indications that it may be toxic to some people. In France in November 1982 government tests of the substance were suspended after four patients died of heart attacks while being treated with it, even though it was not certain that the interferon was responsible for their heart attacks and there have been no similar

incidents reported in the United States. Dr. Thomas C. Merigan of Stanford University, involved with interferon since the beginning, said, "It's disappointing to some, but not surprising to those of us who work in the field, that interferon will not bring miracles as some people once hoped." Tests are continuing, however, and interferon ultimately may prove to be worth its cost.

MONOCLONAL ANTIBODIES

Immune approaches must overcome certain defenses of cancer cells, which protect themselves from the immune system in several ways. First, they suppress production of certain immune cells. Often the antigens on cancer cells are too weak to elicit an immune response. One way to overcome this is to make antibodies stronger.

An ingenious experimental treatment using antibodies combines space age technology with classic immunological concepts. This is the use of gene-splicing techniques to combine two different kinds of cells, producing what are called hybridomas. In cancer therapy a particular type of hybridoma, called a monoclonal antibody, is produced by fusing a cancer patient's lymphocytes with his cancer cells. When these hybridomas are reintroduced into the cancer patient's body, they manufacture specific antibodies that attack only cancer cells. A California man with a rare B-cell lymphoma was the first to be treated successfully with this method. Since 1977 his cancer was treated several times with chemotherapy and interferon. These produced partial responses that were followed by relapses. He entered a Stanford University study in 1981, and in March 1982 Stanford announced that as a result of treatment with monoclonal antibodies he had been cancer free for nine months.

Researchers are quick to caution that producing these antibodies is time-consuming and exacting and that other patients in the study did *not* respond, but there is great enthusiasm among cancer researchers and immunologists about the potential of this technique.

DESHIELDING CANCER CELLS

As we have seen, cancer cells frequently are shielded by a fibrin coat that protects them from attack and hides antigens. One method of amplifying antigens is to remove fibrin coats with enzymes. Al-

though the proteolytic enzymes used in Laetrile therapy are not accepted by American medicine, several European cancer centers use them both for their deshielding and specific tumor-dissolving actions.

In America a treatment is used employing leukemia cells that have been treated with the enzyme neuraminidase. This enzyme digests the coat on the leukemic cells that masks their antigens. The treated cells are injected into patients whose macrophages can then attack them. When the macrophages reproduce, the new generations are sensitive to these antigens. The macrophages also stimulate production of antibodies that can destroy malignant cells. Patients are injected with about ten billion of these treated cells once a month, usually after their disease has been controlled with chemotherapy.

One remarkable patient who benefited from the combination of chemotherapy, neuraminidase-treated leukemia cells, and MER, methanol extraction residue of the BCG cell wall, is prominent New York lawyer Morris Abram.

On June 19, 1973, his fifty-fourth birthday, Abram went to his family physician and friend of many years, Dr. Hyman Ashman, for a checkup. "I was at the point of separating from my first wife," he told me, "I had colds that lingered on all winter, I was smoking cigars very heavily, I was taking aspirin like it was going out of style, and I was on an anticholesterol drug." In addition to the stubborn colds, he complained that he felt dizzy when he got up from his rocking chair.

Ashman seemed unconcerned during the examination, but when he called Abram in two days, he expressed worry that Abram's hemoglobin was low and wanted to check it again. A second test confirmed the low reading, and Ashman insisted that Abram see a hematologist as soon as possible. Annoyed to have to take the time, Abram had a blood and bone marrow test. The next day Ashman, clearly troubled, phoned Abram and asked him to his office. Abram immediately thought leukemia, without knowing why, and later that evening, in an office that Abram remembers being ". . . as somber as the news he had to convey," Ashman confirmed to his old friend and patient that he had acute lymphocytic leukemia.

Abram's first reaction was one of disbelief and anger. "Why in

hell did it have to happen to me? I had a lot to live for, five children, and one who was then only eleven." Abram's anger quickly turned to decision. He knew, from the experience of friends and acquaintances, that leukemia usually meant a swift and sure death, but from the very beginning he was determined that it was not going to be true in his case. "I resolved," he wrote in a case history published in the 1979 *Encyclopaedia Britannica Medical and Health Annual*, "the night of the diagnosis that I would not yield; I would not die; I would seek the most aggressive help available and take any risks for the chance, however small, to live."

Abram acted immediately. Because there was initial disagreement about the kind of leukemia he had, he sent his slides to a relative, a pathologist, who confirmed his disease was acute myelocytic, rather than acute lymphocytic, leukemia. Both diagnoses, however, were death sentences. In fact the myelocytic form, common in adults, is the more intractable. When Abram asked if there was a cure, Ashman told him that chemotherapy was used, but he thought it was a terrible therapy with little promise. Abram, however, was of a different mind. Not only did he elect chemotherapy, but, deciding that it was important that he be involved in choosing the kind of chemotherapy, he requested a consultation about his treatment with one of his physicians, Dr. Louis Wasserman.

Wasserman described the method of remission induction he planned, and Abram wondered if more could be done. He suggested a consultation between doctors and Wasserman readily agreed to meet with Dr. James Holland, professor and chairman of the Department of Neoplastic Diseases and director of the Cancer Center at Mount Sinai School of Medicine, New York City, coauthor of the massive text, *Cancer Medicine*, and a leader in the field of chemotherapy.

Holland and Wasserman agreed on a new protocol. "Holland is the most aggressive therapist I know. He was going for broke," Abram told me. "His purpose was not to suppress anything. With my full consent it was an all-out effort either to kill the disease or me." Abram knew that the risks included heart attack, liver and kidney destruction, and the enormous, ever-present danger of infection, but he was willing to take them for the chance of prolonging his life. Holland also became part of a team of specialists to monitor Abram's progress, including Dr. Wasserman and Dr. Janet Cuttner.

On September 8, 1973, Abram entered Mount Sinai Hospital, where he endured three sessions with daunomycin, a powerful new antibiotic from Italy. In addition, for a week he had a twenty-four-hour-a-day intravenous drip of cytarabine, both drugs aimed at destroying the cancerous white blood cells. When he developed a fever, another intravenous drip of antibiotics was put in his free arm to combat the infection that endangered his body, which now had few white blood cells to respond. He underwent painful bone marrow extractions every ten days and overheard a conversation between his physician brother and a Mount Sinai doctor, questioning whether they should let him continue on the torturous hospital routine and the chemotherapy, or let him die in peace. Abram feigned sleep and willed himself not to let their pessimism affect him. He needed every ounce of strength that he had to maintain his belief that he could get well.

In his third week in the hospital he had blood clots around his gums, a continual high fever, his hair had begun to come out, and his family was called to his bedside. He was kept alive with transfusions of red cells, platelets, and antibiotics and his own determination to recover. By the end of September, almost one hundred days after his original diagnosis, he was still hanging in against the odds and, crazy as it seems, becoming even more optimistic, hoping against hope for a remission, for the chance to play ball in Central Park with his youngest son. Always athletic, Abram forced himself to exercise in the hospital. He would dash down the hallways of Mount Sinai, hospital gown flying, his intravenous drips rolling noisily alongside.

By the middle of the second week in October his cancer was in remission, and he left the hospital for that long anticipated ball game with his son. He was to continue his maintenance chemotherapy as an outpatient. These courses were not too devastating until he had one in early December that left him much weaker than any of the others. When he had his blood taken, his white blood count was down to 600. The normal white count is between 5,000 and 7,000. The stunned technician told him he would have to go to the hospital, but Dr. Wasserman felt that there was too great a danger of infection in the hospital. He advised Abram to continue his normal activities and pray. Abram went to court, tried a case, and survived. "The Lord was with me," he said.

Abram later learned that the dose of chemotherapy had been too much for his body. But the extra-large dose may have inadvertently induced a second remission. "This is only one of the several cases in which the course of my treatment seems to have been influenced as much by serendipity as by plan," he writes in the *Encyclopaedia Britannica*.

A few weeks later Abram was hit with what at first seemed to be another devastating blow. He came down with hepatitis and had to discontinue his chemotherapy while he was battling that infection. He now feels that the hepatitis was an ally, another unlikely stroke of good fortune. Hepatitis is a virulent infection, and he believes it supercharged his immune system. His now principal doctor, Janet Cuttner, said that no one can either prove or deny the possible therapeutic role of hepatitis in his case. But she warned that hepatitis can also be fatal, and she certainly wouldn't want to see cancer patients lining up to catch it.

Despite the hepatitis, at the beginning of 1974 Abram was eager to travel to Rhode Island in the middle of the winter, with snow everywhere, to try a difficult case. When he asked Dr. Cuttner if he could go, she exploded. "With hepatitis? You're crazy," she exclaimed.

"So I fussed and fumed," Abram told me. "And I finally brought in a partner to try the case for me. While he was getting prepared, I could see that he was not going to be able to prepare adequately. He just couldn't. I'd spent years working on it. It involved six million dollars. So I was fussing with Janet all the time and she finally said, 'All right.' I think she thought, All right, you fool; you're going to die anyway. Go and try it. You're going to fret about it. Going there is not going to help your liver, but maybe fretting isn't going to help your liver."

"For a week I tried that case, with hepatitis, yellow as I could be in the courtroom. And I won. When the trial was over, I got on a train—you couldn't get out of Providence by plane, we were all snowbound. I came by train to New York, then down to Washington—I wasn't yet remarried—stayed with my sister a week, who took care of me while I got over the hepatitis."

In spring 1974 Abram's blood tests showed that his hepatitis was fading and he was able to resume his chemotherapy. While he was undergoing these new rounds of chemotherapy, which, for the first

time, made him sick with nausea and chills that lasted for a day each time, he learned of the new immunological agent MER, a product of BCG, then being used only in Israel. He managed to get special permission from the FDA to use MER, but then found out that Holland wanted to try neuraminidase along with MER, and Abram had to wait until June 1974 before Holland's laboratory was set up to use the treated leukemic cells. He then began the painful MER and neuraminidase injections, held on to his remission, and in 1976 began reacting adversely to MER and so was taken off it, continuing with the leukemic cells every month and chemotherapy every other month. Today Abram no longer needs any cancer treatments. He feels that he has beaten off the enemy for a while, fully aware that his leukemia is a formidable foe that might raise its head at any time.

Abram also is acutely conscious of the role he himself played in his healing, and the effects of the will to live and the emotional state both in contracting and curing cancer. He attributes a great deal of his recovery to his second wife, Carlyn, about whom he says, "She is to a large extent responsible for my good fortune." Throughout his ordeal she stood by him with confidence, never accepting his illness. "She refused to believe it. She didn't waver at any point. When I told her what my diagnosis was she said, 'That's your diagnosis, but you're going to be all right.' She never had any doubt about it, never.

"I don't think there's any question but that there's some kind of nexus, as yet undiscovered, between one's emotional well-being and perhaps the endocrine system, and what the connection between the endocrine system and malignancy is, I don't think anybody knows. I have a peculiar theory that breast cancer is a disease which occurs more than coincidence would indicate in presidential candidates' wives. I mention three recent ones, Mrs. Ford, Mrs. Rockefeller, Mrs. Bayh. And I'm not at all prepared to dismiss that. It well may be that women whose husbands go that intensely in politics, if they're otherwise prone, may feel lost, and I'm not at all sure that cancer is not associated with—in some cases—a sense of loss."

MAINTAINING HEALTH

Can a sense of loss so weaken the immune system that cancer cells can flourish unchecked? When I asked immune researcher Dr. Rob-

ert A. Good about the influence of the emotions on the competence of the immune system, he told me, "I don't know yet of any solid evidence, although I suspect there may be some, that the way a person feels and looks at things influences the outcome of his cancer or his susceptibility to his cancer. I have an intrinsic conviction that that's the case. I *know* from my work with the thymus that the endocrinological network and the central nervous system network have very much to do with immunity functions."

Good knows also that nutrition plays what may be a major and as yet unexplored role in immune function. Studies confirming that under-nutrition prevents cancer have been made since the beginning of the century. The latest series, performed at Sloan-Kettering in 1976 by Good and his associates, has shown that when mice bred to develop breast cancer are underfed early in life, there is a delay in the appearance of their tumors. Good's experiments indicate that underfeeding causes a deficiency of suppressor cells, those T-cells that keep B-cells from producing too much antibody. Good theorizes that because the mice have fewer of these suppressor cells, their B-cells manufacture more antibody to battle cancer cells as they form.

Dr. Good explained, "The real key, ultimately, to health, is to learn how to maintain the integrity of the interactions of the three major networks—the central nervous system, the endocrinological, and the immunological network." Clearly, multiple factors affect the immune system. And when we examine the development of the immune theory of cancer, we see that it is the complex product of research in many different scientific disciplines: biology, chemistry, geriatrics, virology, serology, classic immunology. Yet, to date, traditional medicine continues to investigate single remedies. This, of course, is the approach dictated by the scientific method, which concentrates on one element or one action at a time. The knowledge gained by this narrow focus unquestionably forms the backbone of medical science. Yet it can also lead to exasperatingly slow progress. It has taken nearly a century for immune theory to reach even this embryonic stage of its development.

Specialists tend to be oblivious to information outside their field, whether it be proven or unproven, and another reason for the slow emergence of immunotherapy is traditional medicine's often intransigent attitudes. Yet once disdained approaches are now proving

successful in controlled studies. There is no doubt that had these unorthodox approaches been investigated rather than rejected outright, cancer immunotherapy would be more advanced today.

Since no one knows where the most significant immune breakthroughs will take place, perhaps it is time for a new paradigm of medical research, one that emphasizes generalists as well as specialists, one that includes a systematic methodology for bringing together knowledge from many different areas.

JOSEF ISSELS, M.D.

The Tegernsee is a glittering lake set in the Bavarian mountains, an hour's drive south of Munich. It is bordered by orderly towns with sunny parks in which stroll good-humored, hearty, middle-aged Germans on holiday. In the town of Bad Wiessee, however, at the northwest corner of the lake, the benches at the idyllic lakeside are often filled with terminal cancer patients from the Oncological Treatment Center, where Dr. Josef Maria Issels is the *Chefartzzt*.

Issels is a visionary innovator who used fever therapy and anti-cancer vaccines years before these treatments were contemplated for human cancers. He combined these therapies with an assortment of methods aimed at rebuilding the immune system, including a low-protein, largely raw-food diet, detoxification, removing such sites of focal infection as teeth and tonsils, homeopathic remedies, and several even more exotic and unrecognized treatments.

But he also urged surgery when he felt it was necessary and he pioneered short-term, high-dose chemotherapy—although he no longer uses it that way—to slow the growth of his patients' tumors and to give his immune therapy time to work.

A true holistic therapist, he recognized the emotional factors in his cancer patients and their need for psychological support to ease their fears. As early as 1949 he wanted to bring them together where they could talk freely about their disease. As Denis Burkitt, M.D., the noted British cancer researcher who discovered the form of lymphoma that bears his name, pointed out, "Dr. Issels has come to the excellent conclusion that a patient is more than a case. He believes, as I do, that love and trust, and never giving up hope, frequently count for more than peering down a microscope."

Now seventy-six years old, in more than twenty-five years of medical practice Issels has treated more than eight thousand patients with terminal cancer. He has achieved impressive successes with cancer patients who had been told they wouldn't live for more than a few months, even helping some of them survive to a normal life span.

In 1958 Dr. Arie Audier, a statistician from the University of Leyden, Holland, visited Issels' Ringberg Klinik and examined 252 case histories of 22 different types of cancer. He verified that Issels' patients all had metastasized cancer that no longer was treatable with conventional methods when they entered the clinic. All patients had received two months of Issels' therapy, and Audier found that 42, or 16.6 percent of these terminal patients, had led normal lives for at least five years when their life expectancy on admission had been less than one year.

Because of such statistics the townspeople all around the lake call him "Herr Doktor Issels," with respect bordering on awe. His patients and their relatives worship him. People throughout Germany know his name and his life story; in a field full of jealousies and enlarged egos physicians in California, England, and the Netherlands speak of him and his work with admiration and approval.

In the Tegernsee hospital where Issels worked when I visited, I met a fragile, big-eyed young German woman who had traveled from Australia to have her parathyroid cancer treated by Issels. She seemed delicate, but I'll never forget the way she leaned forward, locked her eyes to mine, and said with passionate intensity, "You will be faithful to Dr. Issels, won't you? He's a wonderful, wonderful man."

The depth of her emotion was defensive, since throughout Issels' career the German medical establishment hounded him, finally charging him with fraud and manslaughter, imprisoning him with convicted murderers. The sensational trial made headlines throughout Europe. Though eventually acquitted of all charges, he lost his clinic and had to work for another doctor; his trial and imprisonment left deep scars.

Today, however, in Bad Wiesee, Issels once again has his own outpatient treatment center with modern facilities and a staff that includes three other doctors and seventeen nurses. And in June 1981 Issels was finally accepted by his peers: the German Federal Depart-

ment of Health appointed him a member of an "Overall Program to Combat Cancer."

Ironically Issels' difficulty was that he was so far ahead of his time; his immune theory was postulated in 1949, long before this approach was even considered by traditional medicine. His conclusions grew not out of controlled laboratory studies, but, as with Gerson and Moerman, out of what actually worked with patients in clinics and hospitals. And he combined methods, making it impossible to tell which of his treatments was responsible for his cures. But for Issels, as for other alternative therapists, it wasn't any one method that healed patients. Each part played a role in the total approach, either strengthening the whole body to defeat the cancer or acting to destroy the local tumor.

When I visited Issels in 1978, he worked at a twenty-five-bed hospital in Tegernsee, the southernmost town on the lake. There, silver-haired Issels ran two miles every morning, then began his clinic rounds at 8:00 A.M., and worked into the afternoon. He appeared energetic late in the day as he greeted me in his large, comfortable office. But his vivid blue eyes could not hide a weariness and a deep knowledge of suffering—his own and what he has seen in his patients. I did not meet any of his long-term survivors, but clearly spelled out in Issels' life story is the vital importance of doctors' compassion and intuition.

After our first interview Issels showed me the Tegernsee dining hall and invited me to eat with the patients. It was a long and cheerful room. Thriving plants sat on a windowsill under a wall of windows that faced the mountains. There was a deep blue carpet on the floor; the white walls were unadorned except for electrified candle sconces; the tables were covered with immaculate white tablecloths. The ambulatory patients—who were all in street clothes, as they were encouraged to be as active as possible—chose from a variety of salad ingredients heaped on platters and in bowls on a long buffet table. There were slices of cucumber, radishes, beets, tomatoes, shredded carrots, pickled vegetables, several different kinds of sprouts, lettuce greens, two dressings, five or six different kinds of bread. Another table carried bowls of grains, Familia, and nuts. Everything was beautifully fresh. Patients helped themselves to huge portions of these foods, which were followed by big servings of soup and cooked vegetables. The waitresses gave each patient good-natured personal attention, chiding one for not eating enough,

encouraging another to take more food. The atmosphere seemed designed to soothe the spirit as well as to rebuild the body.

A WHOLE-BODY VIEW OF THE IMMUNE SYSTEM

Issels' comprehensive theory of cancer begins with a broad picture of the body's defense system, which he views as having four interdependent parts. The first he calls the extracorporeal defense zone. This consists of the colonies of friendly bacteria found on epithelial tissue—the tissue lining the body cavities—that help to destroy potentially harmful microorganisms.

The second he calls the epithelial defense zone. This consists of those organs that filter and excrete waste materials and toxins. This system includes the large intestine, skin, kidneys, and liver.

The third defense zone is the reticulo-endothelial system, known as the RES. This consists in part of proteolytic enzymes, spleen, thymus, lymph nodes, lungs, lining of the abdominal cavity, and red and white bone marrow. These produce the lymphocytes and their antibodies, which orthodox medicine considers the whole of the immune system.

The fourth Issels calls the reticulo-histiocytary defense zone, or the transit mesenchyme. This tissue, which comprises all the connective tissue and makes up about half of body weight, is the same ground substance Cameron speaks of. The function of the mesenchyme is to store protein, salts, and water, and to digest foreign proteins, microorganisms, and toxins by capturing and binding them chemically.

According to Issels malfunctioning of any of these defense zones has harmful effects on the others. If conditions are allowed to deteriorate, cancer may develop.

For example, if the mucous lining of the large intestine, what Issels calls the filter of the body, becomes clogged and cannot filter out the toxic end products of digestion, and if the skin, kidneys, and liver—the other organs vital to detoxification—also are not functioning well, the body tries to live with the toxins by depositing them in the connective tissue. As this fills with toxins, individual cells can no longer absorb nutrients or get rid of wastes. When this happens, Issels writes in his book, *Cancer: A Second Opinion*, that the body "is rather like a swimming pool whose water is not being filtered, whose

drain has become clogged; the water will simply get dirtier and dirtier."

Then cells become damaged and can disrupt the central nervous system and glandular functions. Any dysfunction of the nerves or hormone production can lead to conditions that favor the development of cancer, including, Issels believes, impairing the function of the RES system.

When the storage capacity of the transit mesenchyme is finally exhausted, toxins enter the blood and the tissues, leading to degenerative changes. Then what Issels calls the tumor milieu exists.

Although other nontoxic physicians and researchers disagree, according to Issels the tumor milieu is characterized by a disturbance in the acid-base balance: in cancer patients the blood is more alkaline than acid. Serum levels of potassium, magnesium, sodium, zinc, iron, and aluminum are depressed and copper and calcium are elevated. Blood sugar is increased. Red blood cells are fat and have a tendency to clump together.

A tumor develops under these conditions, which are ideal for the growth and propagation of what Issels calls the live oncogenic—or cancer-generating—agent. This he describes as a parasite that does not require oxygen to survive but, rather, metabolizes by fermentation. It feeds on the wastes found in a body filled with toxins. The higher the concentration of such toxic wastes, the more the parasites flourish.

Issels thus believes that a microorganism is the immediate cause of cancer. This is the same pleomorphic microbe observed by Virginia Livingston and other researchers, growing out of the same toxic, degenerated physical condition described by Max Gerson, the Laetrile workers, William Kelley, and many others. Of this microbe Issels says, "Final proof has still to come because such viruses frequently assume a concealed form in cancer cells and thus cannot be readily demonstrated. Instead their presence is revealed by immunological means which detect the antigens which are the hallmark of the unseen virus." Issels told me that he makes vaccines from antigens that cause the body to produce antibodies. "We have here two hundred antigens. And we find out which antigen is right for each body. Then with this antigen such tumors can disappear slowly away."

Although this complex view of the entire system was not completely articulated until 1963, Issels had long understood that the

immune system is constantly on the lookout for the abnormal. Anything foreign—from tissue implants to cancer cells—is met, challenged, and destroyed by it, unless that system is not functioning well enough.

There are many reasons the system could become clogged, including inherited conditions. One of these inherited conditions is what Issels called mesotrophy, which he explains as a "... slow, often barely perceptible deterioration in health caused by deficient nutrition which has persisted over several generations. By deficient nutrition I mean a diet usually rich in calories, but poor in vitamins and minerals." There are also such postnatal factors as chronic infections of the teeth and tonsils, faulty diet, chemical and physical factors in the environment (including sun, burn, and radiation scars, long exposures to X rays). Issels was also one of the first to believe that the emotions could play a role in the development of cancer.

Because most physicians see the RES as all of the immune system, they aim their treatments at stimulating that system to produce more T- and B-lymphocytes and more antibodies. For Issels, however, the immune system also includes the detoxifying organs and the transit mesenchyme. If these organs are not restored to normal function and if the transit mesenchyme is not cleaned out and repaired, stimulating the immune system means little.

"Now, every doctor outside makes immunotherapy. They don't make immunotherapy, but they say they make immunotherapy," Issels said with a laugh. "They make an injection, like BCG, and nothing else, and say, 'We make immunotherapy.' That has nothing to do with immunotherapy. I never use BCG. BCG is the wrong therapy. BCG is a very good thing for tuberculosis. We don't stimulate. We regenerate. If I take away the causal factors, and the secondary damage, and I change the milieu, then we make the *real* regeneration, and not just stimulation," he told me.

Therefore in addition to his vaccines Issels uses a combination of therapies, most designed to change the biochemistry of the body so the tumor milieu no longer exists.

DIET

Basic to changing the biochemistry of the body is diet. The Issels diet, like so many of the cancer regimens, stresses raw live foods, which make up one half to two thirds of intake. Proteins come from sour

milk products, particularly buttermilk and curdled milk. Issels also suggested cottage cheese, but warned his patients to avoid meat, as if the digestive system is weak, the blood will be flooded with the toxins that arise from the breakdown of meat. Milk products are easier to digest. Soybeans, hazelnuts, walnuts, almonds, and brewer's yeast are all acceptable foods for Issels' cancer patients.

He tells his cancer patients to eat like diabetics, to stay away from such simple sugars as malt, cane and beet sugar, nonrefined brown sugar, and syrups. If a cell is to oxidize sugars properly, it must contain the proper enzyme and if that enzyme is lacking because there are not enough proteins and vitamins to produce it, then the cell has to ferment sugar. The more sugar there is, the more fermentation, a condition that favors the growth of cancer cells. Salt was also to be avoided.

To maintain the proper acid-base balance, each meal should consist of 80 percent base formers and 20 percent acid formers. Base formers are vegetables and fruits (except for sprouts, artichokes, mushrooms, legumes, nuts, cranberries, and plums, which are acid formers), and all milk dishes. Acid formers are cereals, flours, puddings, bread and cakes, fats and oils, eggs and egg dishes, cheeses, meat, and fish. Like Kelley, Issels stresses that—because the protein-digesting power of the gastrointestinal juices is greatest in the middle of the day—the evening meal should be light. He also speaks of the need to rehydrate cancer patients, requiring that they drink almost three quarts of water a day.

What Issels calls substitution therapy is done to restore particular organs and includes injections of liver and mesenchymal extracts, organ-specific RNA and DNA, proteolytic enzymes, vitamins, minerals, and drugs to provide material for building healthy enzyme systems.

TEETH AND TONSILS

A highly controversial factor in Issels' therapy is the removal of focal infections, particularly found in teeth and tonsils, which he believes further weakens the immune system. When I was in Tegernsee, I spoke to several patients who were enormously disturbed that because they had such infections, some teeth would have to be removed; several therapists told me that they felt it was unneces-

sarily cruel to remove teeth and tonsils from a dying patient. But Issels has seen such great improvements in patient survival times that he feels these techniques are necessary.

Although several physicians have recently pointed out that the tonsils (and the appendix) are seats of lymphocytic tissue, and therefore potentially valuable to immune response, the tonsils that Issels removes from cancer patients are abscessed and atrophied—hardly beneficial to these patients' immune systems. In fact, in 1971 West German medical researchers showed that in 85 percent of all tonsillectomies, the tonsils were so badly infected that they drained their poisons into the bloodstream, further weakening the body.

FEVER AND OTHER THERAPIES

One of the most important of the immune stimulators is fever therapy, which the medical establishment rejected for so many years. Since Hippocrates, fever has been seen as a healthy reaction to toxins or bacteria circulating in the brain. These cause the temperature center in the mid-brain to increase metabolism and to mobilize certain defense cells. When body temperature is high, lymphocytes produce a great deal of antibody, destroying bacteria and toxins and helping the body eliminate any toxic residue stored in the connective tissue.

The attitude of modern medicine toward fever, however, is that it is something to suppress; antibiotics are used to bring fever down. According to Issels if childhood fevers are suppressed, the toxins of infection remain in the mesenchyme, clogging it and reducing immune competence. Issels discovered another benefit of fever therapy: Drug dosage can be reduced by a third to a half, so there are fewer side effects if chemotherapy is given along with fever therapy.

Issels induces active fever with the drug Pyrifer, made from coli bacteria, which raises the temperature to a high of 105°F. He induces passive fever by putting the patient in a cylinder where his body is bombarded with ultra-short waves. The therapy is generally given twice a week and the patient is feverish for several hours.

Issels also uses oxygen-ozone therapy, in which a combination of oxygen and ozone (ionized oxygen) is administered to a patient either subcutaneously or rectally. In the subcutaneous process,

called hematogenic oxidation therapy, or HOT, blood is drawn from the patient, oxygenated, irradiated with ultraviolet light, and returned to the patient's bloodstream. According to Issels both fever and oxygen-ozone therapy increase bacteriocidal and virocidal activity in the body, activate aerobic metabolism and inactivate anaerobic, produce aerobic catalysts that act like aerobic enzymes, and cause the elimination of oxidation-resistant toxins that may be blocking the mesenchyme.

In one 1980 study confirming ozone's direct anticancer effect, American researchers found that when ozone was added to air surrounding human cancer cells from lung, breast, and uterus, their growth was inhibited up to 60 percent when the ozone was at .3 to .5 parts per million, and up to 90 percent at .8 parts per million. At the lower concentration normal cells were unaffected, and at the higher dosage the growth of normal cells was inhibited less than 50 percent.

Hot ether therapy involves the inhalation of ether heated to around 175°F. This ether dissolves pathological lipids and their toxic compounds, making them easily released through the kidneys and bowels. Auto-hormone therapy involves passing ultra-short waves through the brain and the glands, increasing hormone production.

A DOCTOR WHO QUESTIONED

Issels always questioned orthodox medical attitudes. As a young doctor working at various hospitals, he observed that surgically removed cancers almost always returned. He questioned the philosophy of removing the tumor when it obviously did nothing to get at the cause of cancer, and decided against surgery as a career.

At the Maria Hilf Hospital in his hometown of München-Gladbach, Germany, Issels was obsessed with the need to find the cause of all diseases rather than to treat symptoms. Already he was dabbling with the unorthodox. In July 1936 he met Ferdinand Huneke, the founder of neural therapy. Huneke had found that if he injected Novocain into a vein at the site of a local lesion, such seemingly unrelated conditions as asthma, migraine, visual disorders, rheumatism, and so on, would disappear. Huneke could not explain why this happened, but he knew that it worked. Although other doctors ignored him, Issels took him seriously. He often observed relief of pain

when Huneke injected Novocain into his patients' old scars and near dead or suppurating teeth, infected tonsils, or any other local abnormality: what Huneke called the "disturbance field." Huneke felt the injections somehow normalized the electric field of the body. Issels secretly began using neural therapy in the hospital.

Ignoring the skepticism of his colleagues, Issels also worked with a northern German doctor named Karl Ruhmkorff, who used a special diet with chronically ill patients and induced fevers to knock out infection. Issels began to recognize the importance of *Krankheitsbild*, the full picture of an illness, with a medical history that included parents and grandparents. He was introduced to homeopathic medicine—that mysterious approach to healing that treats with minute doses of substances that would cause the same symptoms in a healthy person—about which he was very enthusiastic.

In fall 1938 he opened his own practice in München-Gladbach. He was confident, but patients were slow in coming and he treated them cautiously. He soon found, as so many young physicians find, that he was not getting the results he wanted. The drugs he prescribed treated only symptoms, caused illnesses, and eventually became powerless against bacteria or parasites that had become resistant to them. He began prescribing changes in diet rather than medications, and many chronic sufferers began to improve. His practice grew. His local colleagues were disturbed by his unconventional methods and counseled him against continuing. The buzzing against him increased when he was ordered to stop treating Jews, but refused. In 1939 he was drafted into the German army as a sergeant major.

At home after the war Issels immersed himself in old medical books, rediscovering the work of Carl Spengler, the late nineteenth-century physician who theorized that tuberculosis could change the cells of the body and lead to chronic diseases later in life, including cancer. He called this condition "masked" tuberculosis and believed that it had to be eliminated before chronic diseases could be cured.

The idea that there was a relationship between tuberculosis and chronic diseases, including cancer, had first been developed in the nineteenth century by Samuel Hahnemann, the founder of homeopathy. He theorized that some illnesses, primarily tuberculosis and syphilis, can change not the physical function of cells, but the

metaphysical pattern or aura of the cells. These changes can be passed on from generation to generation, eventually resulting in any one of the chronic diseases. He called these damages "miasms," and said that these miasms had to be cleared from the body before real healing could take place.

Issels began to use homeopathic remedies. By 1947 he began insisting that all his patients have dental X rays and that all their dead or infected teeth be removed. At this time he began to call his approach to all disease *Ganzheit* therapy, or whole-body therapy. His office was full and he drove himself hard, working twelve-hour days, six days a week, until he collapsed in May 1948.

When he had recovered, vowing to cut back on his schedule, a patient with advanced lung cancer came to him for help. He treated the man with a vaccine called neoblastine, made from untreated tumor material that contained quantities of a viruslike particle. He also treated the patient with diet, removed his infected teeth and tonsils, and the man lived three months longer than Issels thought he would.

Encouraged, Issels read everything he could find on immunology. He began to feel that all the texts that equated the tumor with the disease were wrong. Like other alternative therapists he saw the tumor as the last step in a degenerative process that took years to develop. He began to see cancer as a chronic disease, like all other chronic diseases. To be successful a cancer treatment had to treat the whole patient, physically and psychologically, not just his tumors. Local physicians began to call him a charlatan and to say that he was only after cancer patients' money. Issels shrugged off their accusations, as he treated many cancer patients free.

THE PRACTICE OF GANZHEIT THERAPY

He searched for a clinic where he could bring cancer patients together and treat their emotional problems with group psychotherapy as well as their bodies with physical therapies. In 1950 he took over a ward of thirty beds in the Krankenhaus St. Maria in Hehn, a suburb of München-Gladbach. Here he combined the standard cancer drugs with a program of whole foods, organic vegetables, and psychotherapy, including full disclosure of the illness to the patient, a practice not always followed in Germany. He used homeopathic

remedies, encouraged elimination by having his patients drink lots of water and herb teas, and prescribed mild purgatives and immunological preparations. His patients began to live longer than expected.

In October 1950 he started to treat Käthe Gerlach, a forty-one-year-old woman with an inoperable uterine cancer that had grown into her vagina. She had had radiation for several months, but it had been stopped in March 1950 because her heart was too weak. In September 1950 she had developed metastases, and when Issels first saw her, she had been told that she only had a few more days to live. When she met him, she looked at him and said, "Doctor, if anybody can help me, you will." Touched by her faith and courage, Issels agreed to treat her.

In October 1950 she was too ill to be moved, but by February 1951 she was discharged from the hospital with no discernible cancer in her body. Käthe's physician, Dr. Lothar Ley, hesitated to credit Issels with her recovery because she had had many other treatments before she saw Issels. But Ley wrote to Issels that in his opinion orthodox treatment was limited, that he was not opposed to Issels' methods, and that he would be happy to send other patients to Issels, and ". . . would be even happier if you could cure them." The other physicians in the clinic, however, distrusted Issels.

In May 1951 Issels was summoned to Holland by Karl Gischler, a fifty-six-year-old shipping magnate. Gischler had prostate cancer. Despite six years of hormone treatments, it had spread into his pelvic bones and spine, leaving him with a paralyzed leg. Early in 1951 he had seen English and American doctors who told him that nothing more could be done. Gischler then called for Issels and two other specialists, one who suggested radiotherapy, the other who called for further hormone treatments, while Issels described his whole-body therapy. Gischler chose Issels.

At the clinic the two men would discuss the therapy for hours. Gischler noticed that the clinic staff was becoming more hostile and told Issels that he could not practice there much longer. Issels finally realized that he could no longer work at the Krankenhaus St. Maria and agreed to Gischler's offer of 150,000 Deutschmarks for the purchase of his own hospital.

Although Gischler died within the year, he had faith in Issels until the end. He felt that it had been too late for him, but that Issels' treatment would have kept him alive if he had begun earlier.

THE RINGBERG

After a month of searching, Issels found a run-down hotel called the Ringberg on the Tegernsee at the town of Rottach-Egern. Before he moved, a doctor from his hometown warned him that to continue his unorthodox methods would mean professional suicide, but Issels did not care. He was on his way to the realization of a dream and he eagerly began treating patients in his own hospital, in his own way.

He made certain that his patients had all the standard diagnostic tests and told them the results so that they could become involved in their own therapy. He asked them to take their own temperature, to weigh themselves, and to keep their own records of the changes. He encouraged them to talk about their symptoms, and he gave a two-hour lecture every week, one of his many efforts to deal with his patients' fear and anxiety. He never used his methods as unchangeable protocols, but treated each patient as a unique individual.

His first new patient, Lydia Bacher, arrived on September 21. Orthodox treatments had failed for her. After repeated courses of radiation that would temporarily stop the growth of her brain tumor, she had been sent home from the hospital in September 1951 with painkillers, her husband told that radiation could do no more for her. When she arrived at Issels' clinic, she was blind, deaf, dumb, totally paralyzed in both legs and her right arm, had no control over her bowels and bladder, and had lost all her hair as a result of the radiation. She improved gradually and steadily over the next few months, regaining her speech, sight, hearing, and full movement, and was released as cured on March 17, 1952. Her physicians were amazed to see her alive, but they explained it as a spontaneous remission.

As time went by, however, despite an occasional miracle survivor the death rate at Ringberg became staggering. In 1952 almost all of the two hundred patients that had been admitted since the clinic opened, were dead. Then in March 1953 Issels began to remove the infected tonsils of his cancer patients. Despite his long-held belief in the need to remove focal infections, he had rarely ordered tonsillectomies for his patients, believing that such surgery would be too much of a strain for them. However he first saw the benefits when he was treating an incurable cancer patient with recurrent disease of her tonsils. She also had a very high pulse rate. Issels ordered a

tonsillectomy and not only did her toxic symptoms disappear but her pulse rate slowed and she ultimately recovered from her cancer. Issels initially had a 40 percent death rate in his clinic because of heart attacks. After he made tonsillectomies obligatory, the heart-related death rate dropped to 5 percent. A relationship between heart disease and infected tonsils has been noted in a number of studies.

The fame of the clinic began to spread; Issels wrote medical papers, submitted them to journals, and a few were finally accepted. They impressed some doctors and infuriated others.

Three physicians from the Department of Labor visited the clinic. When they were ready to leave, they told him that they had come to expose him as a quack, but in the end they felt he had pioneered something. They also warned him that he had many enemies who would not allow him to continue. He was visited by Professor A. Dietrich of the German Cancer Society, who, although he admired the attitude of the patients and staff and the good nursing care, also warned Issels that there was a great deal of opposition to his methods, and that antagonism toward him was growing stronger. Issels attracted the animosity of Professor Karl Bauer, Germany's leading cancer specialist, but he won the admiration of Albert Schweitzer, who liked Issels' first book, *Fundamentals and Instructions for an Internal Treatment of Cancer*.

Issels is a deeply religious Catholic, and in December 1956 he had an audience with Pope Pius XII, who was impressed with his work. Throughout his life Issels has had a great love for the mystical and the metaphysical, believing always that there is a greater power at work than the temporal in the healing of any disease.

During those first few years in the Klinik, Issels was also able to demonstrate how his *Ganzheit* therapy helped to prevent cancer. Late in 1957 he admitted Elsa Stein, a twenty-four-year-old woman who had a recurrent growth on her left nipple. It had been removed six times between 1949 and 1957 and was always benign. But it began to grow back more rapidly and in June 1957 the tumor was no longer benign, but "precancerous." The surgeon suggested a radical mastectomy, but her family physician feared the psychological effect such drastic surgery would have on the young woman and sent her to see Issels.

At the Ringberg Klinik a new growth was removed and separate

sections were sent to four different pathologists. Two said that the growth was benign, one said that there was a possibility of cancer, and the fourth said that the growth was malignant. Issels treated Elsa Stein for two months and at the end of that time she had had no new recurrences and was discharged. Fourteen years later she had still had no recurrences, and still had both her breasts.

In 1958 Issels added another controversial method to his therapy. The chemotherapeutic drug cyclophosphamide had just been discovered. Known as Endoxana in Europe, it was produced by Asta Pharmaceuticals. The company claimed it had no toxic effects on liver or kidneys, so Issels began using it. He found that when it was given over a long period of time, it did lower resistance, so he gave it in enormous doses for a short period of time, the way the Janker Hospital in Bonn does today. Instead of the then standard doses of 50 to 300 mg, he administered up to 6,000 mg. Blood counts dropped to near zero and were restored by transfusions. He got spectacular results with some patients.

In 1958 microbiologist Franz Gerlach, an eminent researcher into immunological agents, became director of microbiological research at the Ringberg. Gerlach, who had been a professor at the University of Vienna, the Austrian government's delegate to the League of Nations Committee on Infectious Diseases, and a fellow of the Academy of Medicine in Paris, is one of the researchers who found a viruslike particle in all animal and human tumors. He called this microorganism mycoplasma and had had good results treating animals and humans with a vaccine made from it. At the Ringberg he prepared various vaccines that Issels incorporated into his treatment regimen.

It was in 1958 that Dr. Arie Audier, the Dutch statistician, showed Issels' five-year survival rate with incurables to be 16.69 percent. Despite Audier's excellent reputation his paper was rejected by almost every medical journal in Germany. The editor of one told him that it was policy to reject anything connected with Issels and Ringberg because it ". . . would have meant seriously upsetting some powerful men in the German cancer world." The article was finally published in *Die Medizinische*, a respected German medical journal, but when physicians from other European countries visited Issels to learn more about his therapy, the German Cancer Society informed them that the diagnoses Audier had

checked were false: the patients had never had cancer to begin with.

Because Issels' approach was so alien to German medicine, Audier's statistics were attacked and Issels' flamboyant use of chemotherapy merely infuriated the leaders of the Bavarian Medical Association and the German Cancer Society even more. They began to seek ammunition to topple Issels from his position of growing importance and respect. At last becoming aware of the force of the storm brewing against him, in spring 1959 Issels invited the German Cancer Society and the Bavarian Medical Association to examine the clinic. They never responded.

THE TRIAL

Nineteen sixty began as a better year. More patients were living for longer periods of time. But on the morning of September 15, 1960, Issels was arrested on his way to the clinic. He was presented with five pages of accusations, including defrauding four patients and manslaughter by negligence of two.

His arrest made headlines. The police raided the clinic, taking the files of nearly four hundred cases. Issels was jailed in Stadelheim Prison in Munich, where he was placed in solitary. Despite the efforts of his lawyer to free him, Issels was not released on bail until December 16. Many patients died while he was gone, all but three left, and Issels had to sell part of the clinic grounds to pay his debts.

After his release Issels was enjoined from practicing medicine while out on bail and had to refuse the pleas of his three remaining patients. Even though these patients petitioned the public prosecutor in Munich to lift the ban, he would not. All three died.

Formal indictment, not issued until December 28, 1960, was different from the original accusation. It charged Issels with defrauding five patients and manslaughter by negligence of four. In all the manslaughter cases Issels was charged with keeping the patients from surgery that would have saved their lives, but during the trial witnesses repeatedly confirmed that it was the patients who had refused surgery, that Issels had strongly urged surgery in all four cases.

On July 31 Issels was cleared of the fraud charges but was found guilty on three charges of manslaughter and was sentenced to a year in prison. Outraged editorials appeared in *Die Welt* and *Frankfurter*

Allgemeine, accusing the court of limiting the freedom of doctors. Albert Schweitzer was one of hundreds of supporters who wrote to Issels. Issels' lawyers lodged an appeal and he was freed on bail. Again the court restrained him from practicing medicine pending the outcome of his appeal.

The appeal was heard on May 3, 1962, and the judge called for a second trial. Issels' lawyers gathered new defense witnesses from former patients and staff. Many doctors said privately that they approved of Issels' methods but wouldn't risk their careers by testifying in public.

The new trial began on October 29 with leading cancer experts testifying both for the prosecution and the defense. The prosecution argued that Issels' theory of cancer as a general disease could not be proven scientifically and that he used too many different methods in his treatment. The defense witnesses claimed that there was no uniform approach to treatment of cancer. They argued that there was a need for a new concept of cancer therapy, one that treated the whole body because cancer was not a local disease.

In one case after another the defense presented impeccable witnesses, including patients' original physicians, who testified that all patients had had cancer when they came to the Ringberg and had no cancer when they left. All cases were challenged by the prosecution, which claimed that either the patient's previous conventional treatments had been responsible for the cure or that the patient had never had cancer to begin with.

The dramatic climax of the trial was the testimony regarding Gerta Kaiser, who had been diagnosed as having a malignant tumor of the thyroid gland by the Pathological Institute of Berlin University. Professor Heinz Oeser, director of the Radiotherapy Institute, had told her that surgery and radiation were necessary. She refused any treatment and went to the Ringberg, where she spent twelve weeks, then followed the program at home. She was later diagnosed as having a complete remission.

At the trial Oeser said that in retrospect he believed that she did not have cancer, despite three different diagnoses of malignancy. Issels and Kaiser both challenged Oeser's conclusions, Issels reminding Oeser that he once thought Gerta Kaiser had cancer: Oeser had told her to have surgery and radiotherapy. In the end Oeser finally agreed that Gerta Kaiser might have had cancer and that Issels

might have saved her. After this exchange the prosecution no longer questioned the cures claimed by Issels and his patients. Two witnesses for the prosecution even admitted that Issels had a valuable approach and that more clinics like his were needed.

Issels ended the trial by emphasizing his interest in his patients and his dedication to treat the incurables, never to keep curables from medical treatment. On December 11, 1962, Issels was declared not guilty of manslaughter. In 1965 he began work again at the reopened Ringberg.

In 1968 the BBC became interested in Issels and sent Dr. John Anderson, a professor of physical medicine at Kings' College Hospital, London, to visit him. Anderson was a Rockefeller research fellow, a consultant to WHO, and a physician with experience managing cancer patients. He was also an authority on computerizing medical statistics, and when he read Arie Audier's statistical studies, he was eager to meet Issels.

Between February 27 and March 3, 1969, Anderson visited the clinic and reported enthusiastically to the BBC. As Gordon Thomas quotes him in *Dr. Issels and His Revolutionary Cancer Treatment*, "Without doubt [Issels] is a remarkable man doing something which is much needed. He is undoubtedly producing clinical remissions in patients who have been regarded as hopeless and left to fall back on their own resources. I also accept that even when he cannot produce a long remission he aims to allow the patient to live out his life in a worthwhile manner with more quality than would be possible otherwise."

Other cancer experts were not as enthusiastic as Anderson, however. The BBC had asked one professor of medicine at a leading American university to observe Issels. This man was at first eager to see Issels, but changed his mind after consulting with the American Cancer Society, which had recently put Issels on its Unproven Methods list—without ever observing his work.

The BBC also consulted Dr. Robert J. C. Harris, head of the Department of Environmental Carcinogenesis at the Imperial Cancer Research Fund. He said that although he had never personally visited the Issels clinic, he had to trust the judgment of his colleagues in the International Union Against Cancer, who had placed Issels on their index. Harris agreed that Issels might achieve a 17 percent cure rate with advanced cancer patients, marveled that the high

doses of chemotherapy Issels used didn't kill his patients, agreed that Issels' patients were undeniably terminal and that his results were ". . . remarkable by any standards,"—but concluded that Issels and his methods were not worthy of investigation.

The BBC film, called *Go and Climb a Mountain*, was finally shot in secret. It created an enormous furor among the medical community even before it was publicly shown. It was scheduled for broadcast on March 17, 1970, and, because of attacks from traditional oncologists, was canceled. After much debate and bitter fighting within the BBC, *The Observer* discovered the story and accused the BBC of withholding the film. It was finally shown in prime time on November 3, 1970, to an audience of fourteen million people. The show was followed by a discussion between doctors, many of whom agreed that Issels' therapy should be examined with an open mind. Sir David Smithers, however, adviser on cancer problems to the British Department of Health, wrote a long letter to the program's moderator, attacking both the BBC and Issels.

One of the people who saw the film was an Olympic medalist, sprinter Lillian Board. She was suffering from a rapidly growing rectal cancer that was partially removed by a colostomy but still continued to grow. In September 1970 Lillian's surgeon told her fiancé that she had no more than two or three months to live. Lillian's fiancé called Issels and on November 7, 1970, she was flown to Germany.

There was enormous interest and excitement about her visit there and the Ringberg was besieged with newspaper and television reporters, which infuriated Issels. Lillian's condition was very bad. Even Issels told her fiancé that she was virtually hopeless. But the case began to assume enormous importance. If Issels could cure Lillian Board, then his methods were worthy of investigation. If he couldn't, then he was a quack. Lillian's massive cancer did not respond, and despite her brave insistence that she would recover, she died on December 26. The resulting publicity was devastating.

Meanwhile, as a result of the television program, public pressure in Britain had led to the formation of an investigating team sponsored by Britain's Cancer Research Campaign, the Imperial Cancer Research Fund, and the Medical Research Council. The five members included two of Issels' well-known opponents: Sir David

Smithers and Dr. R.J.C. Harris. Although John Anderson wanted to go, he was not accepted because of his admiration for Issels. Only two members of the team spoke German and those two were not cancer specialists. The team planned to spend only five days at the clinic instead of the several weeks deemed necessary by one British medical figure or the several months suggested by another. There was no statistician on the team. Once at the clinic they actually worked for only three and a half days, including interviewing thirty-one former patients. According to Gordon Thomas the report actually was written on the second night the commission was there.

The report, called *A Report on the Treatment of Cancer at the Ringberg Clinic, Rottach-Egern, Bavaria*, was not published in any medical journal, but by the British government. It attacks Issels on every point, except for the psychological support and the quality of the nursing care. It reiterates the position that most of the patients never had cancer, but had been misdiagnosed. Issels was extremely disturbed by this accusation, as he felt that the trial had finally proved the reliability of the initial cancer diagnoses, which were later verified by reputable outside consultants.

Issels wrote a critique of the report which was published in a German medical journal, in which he points out that many of the facts in the report, supposedly taken from his case files, were erroneous. Most significant, he emphasizes, "The visiting team almost totally agreed with the diagnosis of cancer they saw in all the patients in the clinic. The same methods of diagnosis had been applied to cured patients. But in those cases they said there had been a wrong diagnosis. Therefore the report implied that some 600 independent cancer specialists who had diagnosed the progressive carcinomas in the cases had made a mistake."

Despite Issels' refutation the publicity badly damaged the clinic and by the summer of 1971 one third of the beds were empty. The Ringberg eventually closed, destroyed by the unrelenting attacks.

Gordon Thomas's favorable biography, *Dr. Issels and His Revolutionary Cancer Treatment*, had been published in the United States in 1973, but wrangling in Britain between the BBC, the publishers, and the author delayed its publication in England until certain portions of the book, including the BBC controversy and Denis Burkitt's pro-Issels statements, were omitted in the British

edition. In 1975 the book was finally released in England. At about the same time Issels' own book, *Cancer: A Second Opinion*, detailing his theories of cancer cause and his methods of treatment, was published in England.

In April 1975 David Smithers reviewed Issels' book in the prestigious British scientific magazine, *New Scientist*. He slammed it unmercifully. Yet Issels found support from the traditional medical community as well. In May 1975 Dr. Bernard Dixon, *New Scientist's* editor, reviewed the Thomas biography, pointing out the necessity for medical science to be open and fair-minded about new and controversial ideas and their initiators. He scored the medical profession for its treatment of Issels, calling it "... vicious intolerance of an unorthodox outsider . . ."

Dixon pointed out that while the official attitude toward advanced cancer patients in Britain was to allow them to die with the medical help of the state, Issels impressed everyone, even those who dismissed his methods, with the "... warm, invigorating relationship with his patients and the tremendous psychological help he gives them in their battle with cancer. As anyone who has seen a close relative die from cancer knows, this element, or the lack of it, can seem every bit as significant as the latest panacea of science-based medicine."

The battle to get a fair hearing for Issels in Britain was joined by the Swedish journal *Miljö-Framtid (Environment and Future)* in 1975, when the editors of that magazine began an intense two-year correspondence with the British Department of Health. In it the editors vigorously and repeatedly criticized the British commission's visit. Despite the magazine's persistence the British government refused to reopen the matter.

Today, once again head of his own clinic, Issels continues his work. He no longer uses high doses of chemotherapy, having found them too damaging, but he finds very low-dose chemotherapy, in combination with immunotherapy, to be valuable.

One of the first things he emphasized was that in recent orthodox cancer treatment, "the patient gets too much chemotherapy, so much chemotherapy that the last defense mechanism is destroyed. You need two, three months to build up. Very sad, very bad." He spoke of the way modern cancer medicine is aimed only at destroying. "They make X-ray treatment—destroy more—chemotherapy—

destroy more—cortisone therapy—destroy more the defense mechanism. With all three treatments they destroy the defense mechanism and then they're astonished that they have no result. In thirty years there has been no improvement in the treatment of cancer. Because the way they go, by the official medicine, is wrong. It is proven that it's wrong. But they do it."

Except for the change in chemotherapy use the therapeutic regimen remains largely the same: its main elements the diet, fever therapy, vaccines, and removal of focal infections. And yet when I visited Tegernsee, there was a significant change. I felt it in the dining room, where patients spoke quietly to each other; the atmosphere was sober and somber, with none of the animation I had seen in other alternative cancer centers. I felt that Issels himself set the tone. I had expected to see his famous hope and optimism, and although he was strong and cheerful with his patients, after he had left many of them, he would shake his head, his blue eyes filled with pain, and tell me, "No hope there." He said there wasn't enough time to treat patients' depression. "You must speak with them one hour, two hours, every day. You cannot do that. And that is not enough. Because they are lost. They are inverted."

I could not help but contrast that attitude with the energy and instinct that led him to some of his most remarkable successes. There is Thea Dohm, who was first admitted to the Ringberg on October 29, 1952, with a fibroblastic sarcoma. On September 26, 1952, surgery had revealed inoperable tumors in her diaphragm. On October 11 she began radiotherapy, which her parents were told was largely unsuccessful. The girl then developed bronchial pneumonia and her physician suggested her parents call a priest. On October 28 she had received the last rites, and on the twenty-ninth, in hopeless desperation, her parents brought her to the Ringberg Klinik. Thea was nineteen years old.

Issels gave her hope that something could be done for her, despite the X rays that showed a huge sarcoma surrounding her spine between the ninth and tenth ribs. By January of 1953 Thea's X rays showed that her tumor was considerably smaller, although it still surrounded her spine.

She was discharged from the Ringberg and her next X rays, in December 1953, showed that her tumor was there, but still dormant. Thea and Issels were both extremely happy, and Issels was sure she

was cured. At the end of 1954 he was surprised to learn that Thea was in the hospital again with a second fibrosarcoma. She had radiotherapy, but did not respond to it. Wondering what could have happened to have caused this new growth, Issels questioned her and her parents, and learned that she had fallen in love and that she and her fiancé had set a wedding day. The man changed his mind, and within two months Thea's cancer symptoms had reappeared. Issels saw that she was weaker this time, and what was worse, she accepted her cancer, which she had never done before.

But Issels knew Thea was strong-willed, and he wanted to try again. So on November 11, 1954, she was back at the Ringberg. This time her X rays showed a tumor on her left lung. In January 1955 X rays showed that it had reduced in size. Despite that she was gloomy, brooding over her lost love. Issels persuaded her former fiancé to visit her at the Ringberg and the spark between them was rekindled. Thea began to bloom and her condition began to improve. In 1957 she married, and in 1968 her physician, Dr. Philip Wirtz, wrote, "I have examined the patient. Sixteen years after being dismissed as incurable she is alive and cured. The latest X rays show her lungs free of any malignant tumors. Her original spinal tumor is still dormant. She leads the usual busy life of a mother of three children, and has every reason to expect a full life span."

Thea would not have survived if it hadn't been for Issels' sensitivity and persistence. When I met him, his intuition was still strong, but he had lost, I felt, some subtle spark, the determination that could keep him talking to depressed patients for two hours a day until he found the key to unlock their depression. He maintained the utmost faith in his methods and his approach, disagreeing when I suggested that unhappy, hopeless patients do not recover. "No, no, no. If you have a good antigen, and if he feels in fourteen days, in four weeks, that the pain is gone, that the tumor is smaller, then all of these depressed patients go up."

Issels is, I felt, an extraordinary man, an intuitive healer whose ideas were long rejected. He shows no bitterness that when they were finally accepted, it was others who got the credit. If fever therapy and vaccines had been investigated and accepted earlier, how many thousands of lives could have been lengthened, improved, even saved? How many more of his "unproven methods" will be confirmed in the future?

LAWRENCE BURTON, PH.D.

Every chair in the immaculate orange-and-cream-colored waiting room is occupied by men and women in summer sports clothes. They chat freely with each other, like old friends. One tanned middle-aged woman, ready to leave, calls back into the room, "Oh, Ellen, could you bring my serum to me this afternoon? I've got so much to do that I can't come back for it today."

"Sure, no problem," a sturdy young woman responds.

A man emerges from a back hallway and whoops over the buzz of conversation, "I've got Saturday off. This is the first time in forever!"

"Good for you," a woman cheers.

People banter back and forth, laughing easily; the room overflows with life.

This is the waiting room of Dr. Lawrence Burton's Immunology Researching Centre in Freeport, Grand Bahama Island. The apparently carefree people who fill it are terminal cancer patients and their families.

Terminal cancer patients? I was sure I was in the wrong waiting room. I had visited other alternative cancer centers where the atmosphere was animated, but wherever I went, I saw worry in people's eyes, sensed desperation beneath the surface. The atmosphere in Dr. Burton's waiting room was like summer camp.

Lawrence Burton has a Ph.D. in experimental zoology, but his work with animal cancers led him to develop an unaccepted immune therapy that he—and his patients—insist controls cancer. Burton explains what he does, saying, "What we're doing here is immuno-augmentation, it is *not* immunotherapy. We're not shooting the BCG and the what-have-you in. We're not stimulating anything. We're not causing you to make anything. We're just putting in what we think you might need. That's it."

Burton is a master of dramatic conversation. His voice swoops in attack, lowers in confidentiality, underlines, rings with jubilation. His pronunciation is more like a New York cabdriver's than a scientist's, but the words and concepts that spill out at breakneck speed are from the most refined realms of immunotherapy. For years he

has battled the powers of the medical establishment who say that his methods are unproven, and therefore worthless. But Burton's proof is in his survivors.

Since 1973, when he and several physicians in an outpatient clinic on Long Island, New York, began experimentally using his therapy on a handful of cancer patients, he's had dramatic success. Overall, he told me, he achieves long-term remissions in 25 percent of his patients, getting his best responses with prostate cancer, transitional cell carcinoma of the bladder, multiple myeloma, and colon cancer. In 1982 he was seeing improved survival times with mesotheliomas—the same cancer that killed Steve McQueen—and advanced glioblastoma multiforme, the deadly brain cancer that killed John Gunther's son. Although he had not been treating these patients for long periods—his longest survival times were in the two-to three-year range for these cancers—patients were enjoying an excellent quality of life.

He gets his successes not with early cancers, not with questionable diagnoses, but with patients who have been abandoned by established centers of cancer medicine; as one patient described their conditions when they first see him, "They have one foot in the grave and the other on a banana peel."

I have met more than a dozen Burton patients since 1978, with a wide variety of cancers at different stages. More than half are still alive, and about half of these have no evidence of cancer. Of those who still have cancer, some have cancer that is progressing, while others seem to be stable. Nearly all patients enjoyed some benefit from Burton's treatment—even those who did not survive. The widow of one brain cancer patient told me, "I still believe Burton's modality is valid. Although there were tumor cells in my husband's brain when he died, there was not the explosive tumor growth his doctor expected." The cause of her husband's death is unclear, but she is convinced it was the result of the traditional treatment he had received before seeing Burton.

Despite his results he is an outsider. His work has never been published in medical journals and the American Cancer Society claims that he has been unwilling to cooperate.

Burton and the medical establishment have been fighting since 1963, when he and two collaborators isolated a substance that inhibited tumors and achieved long-term remissions in mouse leukemia. Instead of being applauded this discovery was followed by an inexpli-

cable termination of two research grants, one from the Damon Runyon Foundation, the other from the U.S. Public Health Service. The battle heated up even more at a 1966 American Cancer Society Science Writers Seminar, where Burton injected the serum he developed into a group of mice with large, rock-hard mammary tumors. At the end of an hour, when the journalists who had initially seen and felt the tumors scrutinized them again, they found to their astonishment that the tumors had shrunk to half their original size and had turned soft and pulpy. Again, instead of scientific welcome, this demonstration received censure.

Since that time Burton has been placed on the American Cancer Society's Unproven Methods list; the rare doctors who cooperate with him have been pressured by the AMA, which has dismissed his work as quackery. In February 1977 Burton closed down the Great Neck laboratory, which produced the serum that had been used to cure his first miracle patients. He packed up his mice, equipment, and helpers, and with his wife and Frederick Weinberg, M.D., made the trek to Freeport, where he established the Immunology Researching Centre.

Today, however, this attitude seems to be changing. Ever since he moved to the Bahamas, Burton has been trying to get his treatments legalized in the United States. In 1981 Florida state senator Alan Trask sponsored a bill in the Florida legislature that would have allowed Burton's blood fractions to be used there. Among those who voted for the bill were three physician legislators, but Florida governor Bob Graham vetoed it. An aide to the governor said that Graham was afraid the bill would lead to a flood of unproven, possibly dangerous drugs and therapies in the state. Burton was disgusted and word from the Bahamas was that he was ready to quit.

In March 1982, however, the governor's veto was overridden and a law passed allowing patients to receive Burton's therapy there. Representative Carl Twidwell sponsored a similar bill in Oklahoma, which also passed in 1982. "I don't have anything to do with lobbying anymore," Burton told me. "It's my patients."

The National Cancer Institute is also showing interest in his treatment. In December 1982 Burton received a letter from Bruce A. Chabner, M.D., Director, of NCI's Division of Cancer Treatment. Chabner said, in part, "I would be interested in knowing whether you would like to participate in a collaborative effort to test the efficacy of the Burton therapy in a carefully conducted prospective

trial. Among various alternatives we would consider the possibility of referring patients to your facility following NCI workup and then evaluating them after their treatment with immuno-augmentative therapy."

Whether this offer will come to fruition is not a certainty. Burton is skeptical and has had many false starts with traditional medicine.

TREATMENT IN THE BAHAMAS

In Burton's Freeport waiting room, when patients complain, it isn't about their illness or their treatment, but about the injustice of having to travel to the Bahamas for the medical therapy of their choice, of having to live there for an unpredictable length of time, away from their homes and families. They complain about exorbitant prices for food, housing, transportation, and about the boredom of Bahamian life.

Burton is even less happy about the conditions his patients face in the Bahamas than they are. "We're terrible here because we have no ancillary care. A patient needs an X ray. Back to the United States. He needs a scan. Back to the United States. There's no orthopedic man. We can't handle children nor can we handle bed patients."

Now that his treatment is beginning to gain a foothold in the United States, Burton himself feels no desire to return. "No matter how many states legalize," he says, "I'm going to keep my base here."

The daily routine in Freeport is simple. Seven days a week patients come in, beginning at seven in the morning, to have their blood drawn. Each sample is then centrifuged and analyzed for the five immune factors that Burton has found either destroy cancer or prevent it from being destroyed. Patients come back later in the afternoon to pick up vials of their serum, individually prepared from a combination of their blood and healthy blood to supply whatever immune factors their blood samples show are missing. Patients take the serum with them and inject themselves the same day. Because their blood pictures change rapidly, the entire process is repeated every morning for as long as patients stay in the Bahamas. Some patients, initially at any rate, have two or three injections every day; a few have even more.

New patients are taught to inject the serum themselves, which gives them a part to play in their recovery. "That's a good psychological tool," Burton pointed out. "Get 'em into it. Also it prepares them, if they're lucky, to be one of those to go home, who are going to go on. When a patient leaves here, it's not over."

In his printed brochure Burton advises new patients to be prepared to spend a minimum of between six and eight weeks. If the patient improves during that time, he stays for more treatment. If nothing changes, then both patient and doctor decide what to do next. "If the tumor is growing, we have tried. You've had everything. I'm sorry," Burton tells them.

Burton also advises those on his therapy to plan on returning for three to five days after they have been home for twelve to sixteen weeks. While a few of his patients recovered completely after only a few treatments, some have been taking the immune injections for years, returning for checkups every six months.

When patients return home, Burton supplies them with enough serum to last for a couple of months. The serum must be kept frozen and defrosted immediately before it's used. If the serum goes bad, the patient knows immediately: it becomes jellylike and impossible to draw up into a syringe.

Formerly patients had to rely on Burton's intuition and experience with the immune factors to predict what their bodies would need months after he had seen them. That method was not entirely satisfactory. "Some patients, each time I sent them home, the tumors would come back again, start to grow. Then they'd come here and the tumor would regress." But with a computer he finds that he can predict with great accuracy how each patient will respond when he gets home. As of early 1979 he was having excellent results sending prostate cancer patients home with six months' worth of serum.

Patients pay \$300 for initial evaluation, \$2,250 for their first four weeks, and \$300 a week for each week after that. Home maintenance costs \$25 a week.

THE BURTON DIET

That's all there is to it. There are no vitamin supplements, no enemas, no special diets; although, in contrast to nearly all the other alternative therapies, Burton requires his patients to eat animal

protein, explaining that certain immunoproteins are based on amino acids that do not come from vegetable sources.

Burton's therapy is based entirely on the balance of blood fractions. There is a possibility that changes in patients' diets might cause changes in their immune status, but no one has investigated that relationship. In fact, because Burton is gathering data from his patients, he urges them *not* to take vitamins and minerals that might skew his results. But since Burton is a court of last resort for so many, a number of his patients have already attempted one or several of the nutritional approaches. Some of these patients are confused by his contradictory dietary advice, although they generally follow his regimen.

Beulah Glander, who had rejected orthodox treatments and had been through the whole gamut of alternative therapies for her pancreatic cancer, is one such patient. When I met her in 1978, she said, "I've stopped taking *all* my supplements. But I'm going to ask Dr. Burton if I can go back to taking a little vitamin C. I don't see how there could be anything wrong with that." Frail, angular, a wheelchair in front of her as we sat and talked in Burton's waiting room, Beulah was not allowing an injured knee to keep her at home. Beulah had been diagnosed at Loma Linda Medical Center as having cancer of the pancreas at the beginning of January 1974. As we have seen, pancreatic cancer has an extremely poor prognosis. Beulah knew she was facing a fierce, but not unbeatable, enemy. From the start she made up her mind that she was going to recover, using whatever methods seemed right to her. The first thing she said to me was, "The most important thing is your attitude. Your will to live is very important. If you give up when you have a diagnosis of terminal cancer, that's it, you know. And it's very depressing. It hits you right smack dab in the face."

Beulah had gone into the hospital for some tests and when X rays revealed small gallstones, the hospital scheduled her for a gallbladder operation. "When they got in," Beulah explained, "they found I had Islet cell cancer of the pancreas with metastases to the liver. They cleaned out the gallstones and sewed the gallbladder back up again, instead of removing it like they had planned on doing, and told my husband I had six months to three years." Beulah's doctors offered her 5-fluorouracil, but she found out that her surgeon's mother, who also had pancreatic cancer, had not survived

therapy with this drug. "Then I found out that 5-FU kills good cells as well as bad cells and I felt like I needed all my good cells. You need your army—and your white cells, that's your army. I felt like I needed the army, the navy, and the marines, too."

Beulah discovered that there was a nutritional approach to cancer. "I changed my way of life completely. I threw away all junk food, all the things that I dearly loved—like ice cream, cake, cookies, candy. They're off my list." She told me that it wasn't too much trouble to give them up. "Not when it's a matter of life and death," she said. "Because I wanted to live so badly, I would have gone out and stood on my head—in the middle of Fifth Avenue in New York—if I thought that would get me well."

Beulah tried several alternative therapies during the next three years, but they were not successful for her. In fall 1977 she began to get a full feeling in her stomach after eating only a little. "I went to the hospital to have some tests made, and the CAT scan showed that the tumor had doubled in one year's time. So this *really* panicked me."

Once again, however, Beulah did not give in to her disease. Instead in December 1977 she and her husband went to the Bahamas and she quickly began to improve. An initial echogram, taken after a month's treatment, showed some necrosis of the tumor and some scar tissue. CAT scans taken after she had been in the Bahamas for six months showed no growth in the tumor. She stayed there until summer 1981. When I spoke to Beulah in 1982, she was back home in Loma Linda. Her cancer had progressed. I asked her if she was still taking the serum and she told me that she hadn't had any in a couple of months, but was hoping to get back to the Bahamas soon. When she left, she was disappointed that Burton did not make time to see her sister, who had visited Beulah and very much wanted to meet Burton. Was that the reason she had stopped the serum? "Oh, no," she told me. "I'm afraid that he might be angry with me, because I left!"

She had not lost her fighting spirit, however. She laughed when I reminded her that she had been using a wheelchair when first we met. "Oh, goodness, girl, I walk more than two miles a day; my husband and I ride bikes all the time. I just feel so well. The quality of my life is very good. And I know I wouldn't be here today if it weren't for Dr. Burton."

BLOCKERS VERSUS DEBLOCKERS:
THE BODY'S DRAMA

When Burton and his colleague, Dr. Frank Friedman, another experimental zoologist, miraculously shrank mouse tumors in 1966, all they used was a serum derived from the blood of a healthy mouse. The initial enthusiasm that greeted their results was followed by extreme skepticism, a pattern that was repeated when the experiment was performed a second time at a 1967 meeting of the New York Academy of Medicine. The unspoken question was, How could these two overworked, unfunded experimental zoologists have stumbled on cancer-destroying immune factors in the blood, elements that had eluded the sophisticated sleuthing of leading well-funded pathologists, immunologists, and hematologists?

Initially Burton and Friedman found three factors: tumor antibody that destroyed tumors; a blocking protein that protected the tumor by keeping the antibody from attacking it; and a deblocking protein that combined with the blocking protein and rendered it inert, allowing the tumor antibody to move in and do its job.

Burton has since isolated two more blood fractions. One is what he calls normal antibody, explaining, "When I say *normal* what I mean is that it has no effect on tumor, but it balances the immune mechanism. I don't know what its role is, but the effect on the patient is greatest when tumor antibody and normal antibody levels are just about equal."

The other new factor is tumor complement, which is necessary to activate tumor antibody. "This goes into classical immunology," he explained. "There are antibodies that are activated by complementary factors—complements. The antibody doesn't work until there's complement. It's like a lock and key. It hooks on and then it activates. This particular complement is called complement C-three." Tumor complement cannot work if there is a great deal of blocking protein present, so the deblocking protein is introduced. The blood of an untreated cancer patient is high in the blocking protein and in tumor complement but low in tumor antibody and deblocking protein.

Burton explained to me that the source of the blocking protein, the villain in the body's drama, was dead tumor cells.

"At one time," Burton said, leaning forward excitedly, "I said to

myself, 'My God! The tumor has a brain of its own. You kill part of it, it releases a substance that stops you from killing any more.' It's a feedback. It's so beautiful."

"It's a survival mechanism of the tumor," I volunteered.

"No, it's not. It lets the body survive. I'll tell you why. If you kill too much tumor, it will kill the body because the liver goes." As he said this, I remembered that Max Gerson had lost some of his early patients when tumors broke down too quickly and overwhelmed the liver. "So how does the body regulate that?" Burton went on, "It releases this blocking protein, prevents further activation of the antibody by the complement. Then the deblocker takes this blocking protein down. Meanwhile the liver's gotten rid of broken-down tumor and now can start up and kill more tumor, and that's the system. The blocking protein isn't protecting the tumor; it's protecting the body," he finished in triumph.

The serum patients receive contains a combination of the two antibodies, tumor complement, and the deblocking protein—all drawn either from their own blood or blood from healthy donors—combined in proportions determined by an analysis of the patient's blood. In making up the serum Burton guards against breaking the tumor down too rapidly.

THE NEED TO PUBLISH

Most of Burton's patients don't really care what's in the serum. All they care about is that it either stops the growth of their tumors or causes them to regress.

Of course for the medical community that is not enough. Dr. Robert A. Good says of Burton, "He needs to publish his work. He should publish in the standard scientific journals so that we can read and evaluate what he has done."

When I asked Burton if he has submitted papers to scientific journals, he exploded. "Papers! The last paper was submitted in '72. It finally came back from the editor of the journal *Proc. Soc. [Proceedings of the Society for Experimental Biology & Medicine]*, with the comment, 'Who's interested? This material [the blocking agent] could be stinkweeds or roses.' With that, I said to myself," Burton continued, lowering his voice, "'You know something, buddy? You publish in the United States for two reasons: fame and fortune. You

publish so you can get grants. Well, I'm infamous and I'm not getting any public money—go to hell!"

The *Proc. Soc.* criticism, as crude as it sounds, was not completely unjustified. It is customary for researchers who have isolated new substances to identify their precise molecular structure in scientific papers. Burton and Friedman had not done so because their laboratory did not have the facilities to break down the blocking protein, nor did they have the money to get it analyzed elsewhere. They felt their results were striking enough, and replicable with the information they had given, so that their research should have been accepted on the basis of its action alone.

MEDICAL CONFIRMATIONS

Burton has since identified the biochemical structure of each of the factors, and his discoveries are orthodox enough. Fragments of his immune program have been isolated by other researchers. Tumor complements have been studied at several leading cancer research centers. The deblocking protein, called "recognition factor," has been used by Drs. Nicholas DiLuzia and Peter Mansell at Tulane University Medical School; blocking proteins have been found by Drs. Karl and Ingegard Hellstrom at the University of Washington School of Medicine. In March 1979 Dr. Saul Green of Memorial Sloan-Kettering Cancer Center announced that he had discovered a blood protein, called NHG or normal human globulin, that could destroy tumors in mice in twenty-four hours. Burton charged that this was the same substance he had used on the mice in 1966. But researchers have not yet put these pieces together; they have not yet become a part of therapy. In the meantime Lawrence Burton is unquestionably saving the lives of some cancer patients and lengthening those of others.

THE WORK WITH FRUIT FLIES

The rejection from *Proc. Soc.* was the last on a road that began when Burton and Friedman started investigating immune factors back in the 1950s, when they were graduate students at NYU. They worked with fruit flies that occasionally developed melanotic tumors, first isolating a factor with which they were able to form tumors in healthy insects. They published this work in the mid-1950s and

Robert L. Kassel, Ph.D., then at New York's St. Vincent's Hospital, successfully used their techniques to induce leukemia in mice. The three of them then found a substance that inhibited tumors and achieved long-term remissions in mouse leukemia.

Excited, they published their findings in conjunction with Dr. John Harris of Sloan-Kettering, and waited for the world to beat a path to their door. Instead, a representative of the Damon Runyon Foundation informed them that their research did not meet certain requirements and that their grant would not be renewed. When that same doctor made a site visit on behalf of the U.S. Public Health Service, Burton and Friedman had met his first objection. He detected another area he felt was questionable, however—one Burton feels was farfetched—and terminated that grant as well.

Personality clashes led Burton and Friedman to break with their collaborators, and in 1963 they switched their work from leukemic mice to mice with mammary tumors. Their attempts to publish further results of their work with these mice failed. Burton told me, "From 1967 to 1969 we wanted to deliver papers at the annual meeting of the American Association for Cancer Research. They published abstracts for three years. Two more years we were published as titles; they didn't have the room. By the way, they never let us talk. I think it was '71 or '72 they said, 'You know, your topic doesn't even fit what we're doing.' So they didn't even put the title in."

MORE BATTLES WITH THE MEDICAL ESTABLISHMENT

One of Burton's favorite stories is the *Cancer Research* incident.

In 1963 Burton sent a paper to Michael B. Shimkin, then editor of the prestigious journal *Cancer Research*. "We sent a paper in to him, and it disappeared. Six months go by. Where the hell is the paper? We sent letters, what-have-you. Our old director, Anthony Rottino of St. Vincent's, finally went down, and then came back very happy. 'Shimkin is repeating the work without publishing it.'

"What the hell is this? Welllllllll—the answer when I spoke to the wonderful Shimkin, 'It's too important, this type of work.' It's only a mouse, by the way," Burton pointed out parenthetically, "'So,' Shimkin finished, 'our lab is gonna repeat it first.'

"I said to him, 'You know, Dr. Shimkin, you imply that maybe

this is a pile of garbage. Look, we all admit I'm a fraud. You publish it; nobody repeats it, and you give me the rope to hang myself. But I've got another feeling, Doctor. You repeat this work—what's to prevent you from publishing it under your name? I'm gonna jump up and down, but you're the editor, you get it in.'

"He says, 'You gotta trust me.'

"I said some choice words, and then, 'You'll see our lawyers if I don't get that thing back.'" Burton glowered. "He is reproducing the work first. Now what the hell does that mean?" he roared. His anger had good cause, as any scientist would rage at the editor of a journal who attempted to duplicate an experiment described in a paper submitted for publication. The paper was returned, was never duplicated or published.

Burton is bitter that American medical science has ignored his work, and his conversation is full of jibes, thrusts, and digs at the American medical establishment, particularly the ACS and the NCI, which he refers to as the American Cancer and the National Cancer. It takes me a little while to realize that he's not using verbal shorthand, but that those are mordant pet names. The American Cancer Society includes Burton's therapy in its file of unproven therapies for cancer.

"It's a cute brochure. It's as sweet as can be," Burton said acidly. "First of all there is nothing really deleterious in the whole thing. But beautiful innuendo. It said that the old foundation *stated* that contributions are tax deductible. They were! There is a number—it's registered. Why do you put 'stated' in there? It's true." In their report Burton points out they also say, "The Immunology Researching Centre, Ltd., is *said* to be 'a not-for-profit foundation financed totally by patient contributions.' It is. What do you mean, 'is said to be'?"

Burton went on, railing about the American Cancer Society's statement that both they and the National Cancer Institute had offered to collaborate with him. "The American Cancer has offered to help us and to cooperate innumerable times and in many ways." Burton waxed grandiose, exaggerating the actual quote "Show me one way, okay?"

According to Burton the ACS's single offer came in 1966 when an ACS senior vice-president for research offered Burton, the three other Ph.D.'s, and two physicians who were then working with him

a one-year grant of fifteen thousand dollars. In exchange for this Burton was to turn over a percentage of marketing rights to the ACS. This is a standard arrangement, but Burton refused, feeling the offer was insufficient.

A CANCER BLOOD TEST

Part of Burton's research has always been to find a blood test that would serve as an early cancer diagnosis. For several years he has claimed to have a test that reveals the presence of cancer, but that to release it without his treatment would be worthless. But at a 1980 press conference he announced that he was negotiating with MetPath, a medical testing laboratory in New Jersey, to sell them the rights to market this test.

MetPath became interested when they sent him 193 vials of human blood, four of which belonged to known cancer patients. Burton identified those patients and six others who believed themselves to be healthy, but who tested positive. MetPath considered these six false positives, but within a year all had been diagnosed as having cancer. However at this writing MetPath talks are stalled and Burton is considering marketing the blood test himself.

THE BURTON PATIENTS

Scrappy, eternally suspicious of the medical establishment, Burton laces his conversation with stories of suspected plots against him, but he is refreshingly aware of his own tendencies. "Even paranoids have enemies," he told me, smiling. He is a man of enormous complexity and contradictions. His outspokenness, humor, and warmth are irresistible. Yet there is also his strong belligerence and the jealous protectiveness with which he guards his methods.

Because he's not an M.D., Burton can't treat patients. His partners, Dr. Weinberg and now, also, Dr. John Clement, do that. But although he doesn't treat them, he almost always meets them, knows and understands them, cares deeply about them, bleeds with them. And his patients reciprocate. They adore him.

When I gently suggest to some of his patients that his barbed comments and paranoia may have played a role in his terrible relations with the medical profession, they leap to his defense. "He has

reason to be paranoid," one patient told me sternly. Nancy Campbell, a cancer patient who has been treated with immune augmentation since 1974 (she took DES during her pregnancies and four of her five children have cancer that is also being controlled by Burton's methods), told me that he's changed because of the mistreatment he's received at the hands of medicine. Another patient responds firmly that Burton has been kicked so often that it has hardened him.

For Beulah Glander the way Burton treated her was nearly as important as the improvement in her condition. "You know," she told me, "most scientists are introverts, but he is an extrovert. He really loves people. And this is what makes me love him so much, because I *know* he cares." Beulah had raged fiercely about the phone calls she would get at home from people who would say, "I hear you have cancer. Someone told me I should be sure and call and talk to you."

"This takes a lot out of you. I want to be treated as a human being, not as a cancer patient. To Dr. Burton I'm not just a pancreatic cancer victim"—and she drew herself up and finished with quiet dignity and pride—"I'm Beulah Glander."

Burton had told me earlier that he had made Beulah love her name, and when I asked her about that, she beamed.

"You know, I really detested my name, until he said, 'Well, I like that name. I don't know of anyone else by that name.' And it has done a lot of good." For Beulah that kind of caring is far more important than to know the chemical composition of the immune elements in her serum.

Burton's memory is impressive. Sam Adorno, with a story of a dramatic recovery from Hodgkin's disease, told me that the first time he met Burton, it was by accident, in a hallway.

"Hello," Sam said, recognizing Burton from his picture in an old *National Enquirer*.

"Hello," Burton responded. He peered at Sam. "Who are you?" "I'm Sam Adorno."

"Oh, yes," Dr. Burton said, his face lighting up with one of his ingenuous smiles. "You're the Hodgkin's case." In the next few minutes he detailed Sam's tumor count—the rate of tumor destruction—for the day, the week, and the month that Sam had been there. He knew exactly where Sam's tumor was and he knew exactly which lymph glands were involved.

"He just knew everything there was to know and it amazed me that he could just reel it off, just like that out of his head. And at that time I think the clinic had about one hundred seventy-five patients."

On October 1, 1977, after completing a year of chemotherapy for his Hodgkin's disease, Sam was told by his internist/hematologist/oncologist, Dr. Ahr of West Palm Beach, that he was certain Sam's liver and spleen were affected. He advised Sam to have his spleen removed and to have a pelvic node biopsy and a liver biopsy. Ahr told Sam that in addition to the surgery six months of Y radiation were necessary if Sam were to survive for more than six months.

"What's Y radiation?" Sam asked warily.

"We radiate your lower abdomen," was the answer.

"How do you know when I've had enough radiation?"

"You can't hold your bowels anymore."

"Oh," Sam responded, "that's nice," and with that he bowed himself out of Ahr's office forever.

"I liked my oncologist," Adorno told me, "but when he was trying to press this Y radiation and the surgery on me, I decided I didn't want any more. I'd had enough one-year cures."

Sam called his chemotherapy a one-year cure because his doctor had told him that at the end of a year he would be cured, that according to the statistics, with Hodgkin's 80 percent of the patients live for five years. "If I had known there was anything else when I started, I wouldn't have gone through the chemotherapy." For Adorno chemotherapy was a miserable experience that left permanent scars. "The only thing I got out of chemotherapy is a bad heart and the inability to keep up my hemoglobin. I'll have to take Inderal for the rest of my life just to keep my heart beating. I have to have iron each day, otherwise the hemoglobin goes way down." Sam rolled up his sleeves and showed me his arms. "Every one of the veins on my arms—I don't have them anymore. They're just lines. They're all supposed to come back." In contrast to Sam's reaction to the chemotherapy, the only side effect he suffered from Burton's shots was a low-grade fever and a little fatigue.

"Yeah," Sam snorted, "I've had enough CAT scans and X rays and this and that to give me bone cancer, to just melt the marrow." Sam laughed ruefully. "I really thought I had the best, too." In terms of cancer therapy in the United States, Sam probably *did* have good care. But it wasn't what he needed.

On November 23, 1977, Sam came to Freeport after having read about Burton and talked to every survivor he could. For the first two or three months on the program Sam got as many as eight injections a day. On December 22, 1977, diagnostic X rays at his Florida hospital still showed enlarged lymph nodes and a hyperdense area in his spleen.

However on March 31, 1978, Sam got the following report from the University of Miami: "Liver, spleen and pancreas unremarkable. No hyperdense areas." Two scans revealed no signs of tumor and all his lymph nodes had decreased in size. The good news elated Sam, but it came as no real surprise. Burton had assured him before he left for Florida that he was all right, and Sam himself felt fine. All the fevers (up to 104°F), night sweats, and pain that he brought to the Bahamas with him were gone.

On April 20, 1978, Sam confirmed that diagnosis at Broward General Medical Center with a negative scan of both spleen and liver.

Sadly, although Burton cured Sam's Hodgkin's, Sam died in 1979. When I asked Burton what had happened, he told me that Sam had become addicted to a strong painkiller while he was sick and that he had died of an overdose of that drug.

THE EXCESSES OF CANCER MEDICINE

Burton's scorn for the medical establishment is as great as his compassion for his patients. He reserves his fiercest barbs for doctors who have injured his patients, either physically or emotionally. He told me the story of a woman with breast cancer who asked her doctor at a leading cancer center to send her records to Burton. "I will give you the quote: 'If you go there, you'll crawl on your belly before I'll ever see you again.'" The words oozed out of Burton with loathing. "Wonderful, wonderful man," he said with scorn.

He told stories of noted hospitals refusing to send him records until the patient threatened a lawsuit. He told me of two doctors who gave good verbal reports on patients but who would not commit themselves in writing. One even went so far as to write up an erroneous report. "Most of them are ducking. They're afraid. What are they afraid of?" he shouted. "They're not endorsing. They're merely saying what they've seen. But they're confident it's gonna kill them.

This is not only us. It's the same thing with every one of the alternative therapies."

But although his anger repeatedly explodes, he is quick to say that not all doctors are that way. He also notes that surgery is often a necessary and valuable tool, that radiation and chemotherapy have their successful applications. In fact he told me early in 1979 that he had softened his stand on chemotherapy and radiation to the point where he now uses them in certain cases in conjunction with his therapy. "If we need help, we're gonna call on it, but not what they think." When Burton uses chemotherapy or radiation, it is in minute doses, because his therapy makes patients superreactive to both and sharply decreases the side effects.

He has also used radiation in unusual ways. In December 1977 a British woman came to him with anaplastic lung carcinoma in both lungs. Grand Bahama Island in winter is not a healthful place for cancer patients. Vacationers from all over the world bring bacteria and viruses to which the natives have no resistance. Every year these infections spread throughout the Bahamian population and hit Burton's cancer patients. The Englishwoman developed an infection and was sinking fast. "Antibiotics did nothing, so we decided to send her over to Florida and give her some radiation. Radiation will kill anything. I figured maybe it will kill the bacteria. Well, it cleared up the infection, but also, her lungs went perfectly clean. That was number one. We have about eight others now."

Burton told me about a man with histiocytic lymphosarcoma. "He had been through everything. He's here for six months and he's very happy for one reason. The tumors are not growing anymore: they're standing. And his neck, he could wear a size forty collar. So I figured to myself, What would happen if we give some chemotherapy and kill some tumor? But *not* the way they give it. So we asked our patient, 'Would you take one Cytoxan, Monday and Thursday, that's fifty milligrams?' He went into *hysteria*. He laughed like hell. He said, 'I used to take twelve to twenty-four Cytoxans every day when I was on chemo.' We gave it to him. There have been no ill effects. And now he has no tumor, and he can wear a normal size collar, and he's going home at the end of March.

"Of course, it stains our results. The minute we give any patient one pop of chemo—whether it would or would not work, they say, 'Aha! This is a freak. The chemo worked.' So I'm not against that

stuff. They are compatible. Let's just say that I'll use it in minute and infrequent doses."

He is unrelentingly and violently opposed to what he feels are the mindless abuses of surgery, chemotherapy, and radiation. At one point, as he lambasted the medical profession, Burton suggested that the number of spontaneous remissions might be much greater "... if they didn't kill patients off with therapy before they gave the body a chance."

He railed at so-called preventive adrenalectomy, frequently ordered for breast cancer patients to slow down the spread of the cancer. "It's archaic medicine," he roared. "The adrenalectomy and the subsequent hypophysectomy will slow down the cancer. It will also slow down the whole body. It lowers the pain. It lowers everything. Without adrenaline and your corticosteroids, your whole body goes." And he slumped in his chair to illustrate. "And then when they remove the pituitary, nothing bothers you. I mean, you can say to the patient, 'I gave you a billion dollars,' and he'll respond"—and here Burton smoothed out his voice and pitched it high—"Reeeeeally? Would you like to eat?" You're very quiet. The whole world is slowed down. But you're also undignified. You've been vegetabilized. You have been given an undignified death. I think it stinks." That this series of operations leads inevitably to death is a certainty according to Burton. "You have twelve to twenty-four months to live and then you're going to die. You booked it. That's it. It's all over."

He told me of one lung and bone cancer patient who had his collarbone removed, was burned badly with radiation, and developed an enlarged heart induced by the chemotherapeutic drug Adriamycin. Because his doctors thought he had no chance of surviving his cancer, they never replaced his collarbone, so now he has a shoulder that hangs down on one lung. He came to Burton for treatment and has since had two checkups that show no sign of the disease. "But so deformed. They chopped him and burned him and what-have-you. But he's very happy as it is. He's glad to be alive. How about that?"

Burton also pointed out to me one prevailing attitude in American cancer therapy, stunning in its implications. He discovered it in a letter concerning a young patient treated for lymphoma at a California hospital, but it is ubiquitous. "They took a young boy, a twenty-four-year-old, and literally killed him with therapy. They

found a little bit of lymphoma in the tonsils when they were doing a routine tonsillectomy. And in one year they spread it all over the body by destroying his immune system with chemotherapy and radiation. But the last line in the letter tells the story. It reads, 'We feel that we have little to offer this patient, as he has failed all chemotherapy.' *He failed,*" Burton exclaimed. As he said this, I realized with a chill how familiar that line was, how frequently I had heard it or read it regarding cancer patients.

"Those damn patients," he said sarcastically. "The stuff is good. The treatments are perfect. But this poor little twenty-four-year-old boy, damn it, he failed all their therapies."

Burton chuckled. "Now, I tell the patients here, 'If you don't get well, it's *your* fault. We're doing everything right. You're wrong.'"

He was sarcastic as he told me that he stayed away from Hodgkin's and leukemias. "They're one hundred percent curable," he said with scorn. "By the way, nobody dies of leukemia in the United States anymore. They all die of pneumonia. Just a little complication."

BURTON'S "MIRACLES"

Burton's program is not at all complicated. Yet despite its simplicity many patients in the Bahamas were not motivated enough to follow it. One patient said, "You have to have the will to fight it, now, there's no doubt about it. I've seen people here that could have made it, but didn't. They gave up. They were out drinking every night and partying, and taking handfuls of pain medicine when they didn't need it just to get high, not following the proper diet, just eating when they felt like it, and all that. You have to follow all the rules if you expect this man to help you out."

Leola Klise is one of Burton's original patients, treated by him and a physician when he was in Great Neck. She has done everything right, following Burton's instructions carefully, delighted to be one of his successes, after no success with traditional treatment. When excruciating pain in her hip and leg was diagnosed as a malignancy, Leola was devastated. She had had a mastectomy and her ovaries removed in 1960 for what were diagnosed as two different kinds of cancers. In 1974, after she was told that there was cancer in her bones, Leola told me how miserable she felt. "It's an awful

feeling. You look at things and you think, 'Oh, I won't see that much more.' It was just prior to the holidays. And I was so sick. I wanted to shop for the children and I didn't want my husband to know how badly I felt. We tried shopping and I thought, I'll never be able to do this again. This will be the last time I'll be doing this. And I don't want the children to know just yet—not until after Christmas. And you feel like you're almost going to your own funeral," she confided. "You just feel that empty. I went through that and then I had to get hold of myself. I do have a strong religious background. My parents are Christian people and I've been brought up with a strong faith and I knew that nothing is impossible with God."

Leola took cobalt, refused chemotherapy, and went to Mexico to try Laetrile, which didn't help her. On her way back from Mexico she and her husband stopped in California to visit some relatives. A friend of one of her husband's cousins had just returned from New York, where she had been treated by Burton. She had the same kind of cancer as Leola and urged Leola to go. When Leola got home, she talked to her physician, who told her, "Well, what have you got to lose?" Leola asked him what he would do and he said, "I'd probably do the same thing as you're doing. If it doesn't help you, it won't hurt you." Dr. Finch agreed to send her records; so Leola called Burton, who asked her to send a blood sample. After receiving her blood, he told her to come as soon as she could get there.

"I was really ill," Leola told me. "I was in pain. My hip hurt me so badly, and my leg. It was hard to walk. I felt weak." When she got there, Burton said to her, "I don't know if I can help you or not. It's kind of bad. But if you're willing to hang in there, why, stay and we'll see what we can do."

Burton told me that when he first saw Leola, "Her bones were loaded with it. She had been treated with all the goodies and after she had her oophorectomy, her Dr. Finch wrote me a letter saying couldn't we try something. 'Wonderful woman, would you try?' That was '75 and Leola's perfectly fine now."

Leola stayed in New York for six weeks. "When I first went there, I was really too ill to walk around. I was too miserable to. I met a girl who was on the program there, and she had a car, so she took me and was most kind to me. We went to the clinic together and had our blood drawn together.

"She was so good to me; she was just like a daughter to me. I just loved that girl. And she didn't have a severe case of it. It was in her

spine and one area was completely cleared up after three weeks. Dr. Burton wanted her to remain on it but she was a divorced woman with two teen-age kids at home that she just *had* to get home to. Well, I can understand how she'd feel, but if you don't stay on it, you know you aren't going to be able to take care of them. She died because she didn't stay with it."

When her friend left, Leola wondered if she could go home, too, but Burton told her it was very important that she stay.

"Well," she told him, "I'll stay as long as you tell me to stay."

By the end of six weeks she was on her feet again, even able to go out shopping, which she hadn't been able to do for a long time.

Since that time Leola has had enormous stresses in her life. She lost her husband and both her parents, all in the same year. Burton told me, "We treated her and her bone scans got better. Whenever she had a psychological blow, the pain came back and the bone scans were terrible. Then we treated her again and the bone scans were almost normal." This happened several times, and after the last Leola told Burton, "Nothing will ever bother me again," and her scans have been beautiful ever since.

Burton talked to me about psychological factors that he has seen and even manipulated in his patients. He observed that in nine out of ten patients who came to him, no matter how sick they were, before they knew whether or not they had been accepted into the program, their immune mechanisms were, "... tremendous. Killing tumor like—you can't believe it. Then we'd accept that patient. You know, the M.D. would warn me, 'This is a horrible patient, lay off, don't go near him.'

"Okay, I won't," he agreed neutrally. But then his voice rose with excitement. "But how can you refuse? Look at the guy's blood! We'll take that patient. The next day, we tell the patient he's in, take a blood—and the immune mechanism's as flat as a pancake."

Burton couldn't figure out why. Mrs. Burton suggested that the immune mechanism flattened as a result of the stress of the trip. Burton disproved this to his satisfaction when he observed the same high/low pattern in a woman who had been in the Bahamas for two weeks before her medical records came. She had had time to become acclimatized, but after she learned she had been accepted in the program, her strong immune response dropped just as sharply as that of newly arrived patients.

"My own theory—it's all psychological. They *think* there's a

chance it's gonna help. And they're all worried: 'Will they accept me?' You finally tell 'em, 'Yes, you're in the program,' and away it goes." He waved his arm and sighed. He theorizes that the patients have been pushing their immune systems in a high state of anticipation and tension, and when the tension is released, the system is exhausted.

Burton told me that he decided to use that psychology with two patients who had been treated for three months with no response. He told them to come in on a Saturday and that he was going to do something special for them. One of the men responded dramatically to the "new" treatment, which was actually no different from what he had been getting all along.

Burton understands the importance of hope, determination, and the will to live, telling me, "A patient says, 'I've had enough,' they're dead. Down they go. They say, 'I'm doing well. I'm doing well. I'm gonna do well,' and they do well. There is something about the psyche that does aid. I don't care what agent you're using—radiation, chemotherapy, or nothing."

Other Burton patients told me that determination and the will to live played a large role in their survival. Leola Klise said, "I think it takes a very strong determination. I had so many responsibilities. I just had to keep going. And I *did not* have time to sit around and feel sorry for myself. I think that has a *lot* to do with it." Leola Klise intends to follow Burton's program to the letter and has since moved to Florida, in part to be closer to the man she feels saved her life.

As a result of appearing in an article about Burton, one patient received more than two hundred phone calls from all over the country. "The one thing I repeated to everybody, because I found that out just on my own, looking around talking to the doctors, seeing the people in the waiting room, that if I take two populations, one population, only the hitters, the hard hitters, the ones that are *really* saying they're going to make it—of those, some make it. Whatever the number is, some make it. I look at the population of those who aren't, who just feel very bad—they're gone. *None* make it. That's for sure. I found that out when I was in the Bahamas." Patients told me about the power of positive expectations, the hope that grew in them as they watched other patients improve.

There is also no way to overemphasize the role of Burton's forceful personality. He tells the story of one powerful man, majority

stockholder in one of America's large corporations, who came to the Bahamas with his wife. He came in desperation but belligerent, fearful of this unknown situation. In their first meeting he tried to intimidate Burton, calling him a quack and threatening dire consequences if Burton did anything to hurt his wife. The wife let her husband talk and then described her case. She had a colon carcinoma that had been removed in December 1977. Doctors at the leading cancer center that treated her gave her one shot of 5-FU, and when it made her violently ill, she refused further chemotherapy.

When Burton discovered that the husband was a trustee of that hospital, he was about to throw the couple out of his office. "I didn't need that," Burton said.

The man questioned Burton closely about his procedures and his successes. At the end of an hour Burton said, "Do me a favor. Go back to your specialists. Ask them the same questions you've asked me: what their track record is, what's this and what's that."

The next week the couple was back.

"I've got to beg your pardon," the husband said to Burton. "I did just what you said. I asked them the questions and I told them about your colon cases. Do you know what they said? They said your colon cases were miracles. Spontaneous regressions."

"Really?" Burton responded. "How many spontaneous regressions do they have?" he asked.

"With all the thousands they've treated, they don't even have one," the husband admitted. And he leaned over the table, a big man, a man who could buy anything in the world he wanted, a man forced by the failure of American medicine to seek help from an exiled Ph.D. in a foreign country.

"Tell me," he asked, "could you make another miracle for my wife?" Burton did. The woman is alive and well today.

8. MIND/BODY

In May of 1973 Bob Gilley of Charlotte, North Carolina, went for a routine physical examination. When Gilley's physician, Robert Fenning, found a lump in Gilley's groin, he began to ask Gilley some disturbing questions.

"Hey," Gilley objected, "these sound a lot like the questions I hear on TV in commercials for the American Cancer Society."

Fenning told Gilley that he did suspect cancer and sent him to see two surgeons. After the tumor was removed, leaving a small lump by which the cancer was later monitored, the pathologists' final diagnosis, puzzled over for several days, was undifferentiated squamous cell carcinoma. They judged it to be a metastasis from a primary site somewhere in Gilley's body, but because the cells were so immature it was impossible to tell where the cancer had originated. Because the primary source of Gilley's tumor had not been found, Fenning suggested that Gilley go to M. D. Anderson Hospital in Houston, Texas, a leading cancer center, for chemotherapy. Fenning urged further treatment because he is an oncologist. At first Gilley thought this was a coincidence. Now, however, he says he knows there are no coincidences.

Although Fenning never gave Gilley a prognosis, one of the doctors Gilley saw at Anderson put his chances for five-year survival

at 30 percent and his chances of ever being cancer free at 1 percent. After hearing this prediction, Gilley said, "I assumed the fetal position for at least a couple of days—and that's not normally my style. And then I came out fighting!"

Gilley's initial battles were fought at M. D. Anderson, where for ten months he took chemotherapy which left him feeling that he would be better off dead, in an atmosphere that was equally bleak and depressing.

"Visualize going from being one of the top-rated racquetball players in the city, being very athletic, and ten days later you're in a cancer hospital. That's a hell of a transition."

There were no private rooms available and as Bob checked into the room, his roommate looked at him owlishly from his bed.

"I'm glad to have a young roommate for a change," he drawled. "I've lost four in the last year, and they tell me I'm already past my life expectancy."

"My friend, you've got a problem," Bob told him firmly. "But it's not my problem. Don't count number five." Of his roommate, Gilley later said, "I watched him turn the world off. He retreated into his own mind, and waited—and died." That was not Gilley's way.

For ten torturous months Gilley received chemotherapy. He traveled back and forth from Houston to Charlotte to run his business. "I would go to M. D. Anderson, take a course of chemotherapy, stay there until I could get about, which took several days, because it *really* was a blockbuster. Then I would come back to Charlotte." Although Gilley had a superior staff and had no need to work during this period, it was important for him to get back after he had recovered from each knockout dose of chemotherapy. "It had to do with staying in the real world. I'd seen so many cancer patients take as reality those cancer wards and the bed and I wasn't going to do that."

In the hospital he watched the people around him vegetate. "I can't tell you how many times I've gone up and down those halls at that hospital and said, 'Let's go for a walk,' and everybody would say"—and Gilley dropped his robust voice to a quavery whisper—"Oh, I don't know. How about tomorrow?" And do you know, in my whole history of two hospitals and *dozens* of times doing that I had *one* taker. People literally lie and watch soap operas and wait for the next dose of medicine. I checked myself into physical therapy every day. And they kept saying, 'But it costs you five dollars,' and I'd say,

'I don't give a goddamn if it costs me five hundred dollars. I want to go up and lift some weights and do something. I can't just lie here and look out the window.' I think that behind every cancer patient that's had any success that I've seen there's been that high-drive profile. 'I can do it; I will do it. I won't quit. I won't give up.'"

At the end of ten months the initial chemotherapy program was over. The lump in his groin that M. D. Anderson's scans indicated was residual cancer and that Dr. Fenning palpated gingerly every few weeks had not grown. But it had not diminished, and Fenning wanted Gilley to go on a chemotherapy maintenance program, which Gilley refused.

A few months earlier Gilley's wife, who had been eating health foods for many years, urged him to take vitamins. He and the owner of a local health food store worked out an intensive program not to reduce his cancer, but to help him regain the strength he lost during his chemotherapy. Gilley was now intently seeking an alternative, trying, then discarding several nontoxic approaches.

At this time Gilley read of the work of Dr. O. Carl Simonton, a traditionally trained radiologist/oncologist, who with his former wife, psychotherapist Stephanie Matthews-Simonton, developed a cancer program that combines orthodox therapy with meditation, visualization, and psychotherapy. The goal of this program is to inspire patients to want to survive and to give them the psychological, emotional, and spiritual tools with which they can participate in the defeat of their disease.

Although Simonton's methods are highly unusual, because he is an oncologist his work is not completely rejected by the conventional cancer world. According to one representative of the American Cancer Society, "He is in a gray area."

The Simontons have now trained more than five thousand health professionals in their techniques, including a handful of M.D.'s. Their approach is also well known to cancer patients through their book *Getting Well Again*, which has sold more than 100,000 copies in hard cover since its publication in 1978. There are 150,000 copies of a paperback edition now in print.

Their statistics are impressive. Of 240 "incurable" patients they and a small staff treated between 1973 and 1979 the median survival time has been double that of the national averages. Ten percent of their patients have had dramatic remission of their cancers. Also

significant, 51 percent had the same level of activity as before diagnosis and 76 percent were at least 75 percent as active. "Based on our clinical experience," the Simontons write, "this level of activity for 'medically incurable' patients is no less than extraordinary."

Gilley was tremendously excited when he heard what Simonton was doing. "In my search for a healer," Gilley said, "I was looking for somebody who was bright, somebody whom I could respect, somebody who was doing something that made sense to me, based upon my previous experience. And I think I've used visualization all my life, not specifically sitting down and putting myself in an autohypnotic state, but as a child I used to cut pictures out of magazines. If I wanted something like a new bike, I'd just cut it out and put it on the wall and walk around daydreaming about it, and pretty soon I'd find a way to get it. And I see it's almost the same."

At first Simonton did not want to take Gilley as a patient. "I was one of the first patients to come from out of town," Gilley explained, "and Simonton couldn't figure out how to handle a problem with somebody a thousand miles away. And so he was backing off fast. 'Okay,' I said, I was kind of pushy—I'm a businessman and a salesman—I'll make you a deal. I'll meet you anywhere at any time, for any length of time and you charge whatever you want to charge me. And that's all I have to give you.'" Simonton's immediate response was, "By God, with that kind of determination I want to see you."

Gilley was debilitated by chemotherapy, and although Simonton thought, with Fenning, that he should be on a maintenance program, Gilley said, "It's my life and I've had enough. I asked them both to support me, and if I started having any progress in the disease, I'd go back on chemotherapy."

Gilley traveled from North Carolina to Simonton's office in Fort Worth. Intending to spend two hours, he spent three days instead, during which time Simonton and his wife probed him with tough questions like, "Why did you need your cancer in the first place?" "Why do you still need it?" "List three reasons why you want to die." They instructed him in meditation and visualization techniques, told him to picture his cancer and to picture his immune system healing his cancer.

"The first two workshops I went to were encounter groups, the most boring things I've ever been into. They would say"—and here Bob softened his voice, making it sound old and codgerish—" 'Oh, I

don't know about this, and my head hurts and I need to lie down,' and I thought, This is just a replay of that hospital I was in." Everybody around him was leaning back sleepily while Gilley sat on the edge of his chair, furiously taking notes.

"I think I was kind of a novelty. They didn't know what to do with me," Bob said, laughing. "Who is this guy anyway?"

Gilley responded to the program partly because Carl Simonton accepted Gilley's need to participate and encouraged it. Gilley explained, "I've got to get in the game. I'm not a spectator, and I wanted to play too, and everybody kept saying, 'Well, you're not a doctor, and therefore you can't play.' And I kept saying, 'Well, I'll play inside and you play outside.' And that was what was really exciting about what Carl did. Carl says if it hadn't been him, I would have gone somewhere and would have found somebody else, because I was determined to find somebody. And I really believe that. One of my former business partners came to me and said, 'Bob, we've had a meeting of all the partners, and we've come to the conclusion that if anybody can beat this son of a bitch, you can. We're betting on you!'"

Back in Charlotte, Gilley meditated faithfully three times a day, using several different sets of images. "I kind of think it's like going to the movies—you get bored with the same one all the time," he told me cheerfully. "But generally I would visualize the cancer"—and he paused after that word, as if trying to smother it—"as a very *ugly, dark, ominous creature*. It might be a snake, a wolverine, a badger—something that's ferocious and ugly and mean, ill-tempered, something that's out to do no good. I would visualize my body's immune system, my white blood cells, as white husky dogs, white polar bears, or white birds of prey—something that was a huge number, something that was white, something that was strong. I had some pretty dramatic pictures going on, and I would go all the way through the process of seeing the good win over the bad, the bad being destroyed and then cleaned up and carted away and flushed out of the body. And sometimes that was tough. People ask me if it's easy, and I say, 'Well, if you think jogging is easy, or if you think dieting is easy, then it's easy.' It's easy to *do*. The discipline of it is extremely difficult. When I got bored with meditating, I would motivate myself. I would put up a big sign in my dressing room and it said C or C or M: cancer or

chemotherapy or meditation. Now, if you look at it from that perspective, that makes meditation really easy."

For a year Bob Gilley visualized three times a day, fifteen minutes each time. (He still visualizes today, although not three times a day, and he mixes it with what he calls an unstructured meditation, for relaxation.)

After six weeks on the Simonton program Gilley went to Dr. Fenning for his first medical examination. "When I took this exam," Gilley remembered, "I was absolutely so scared that I almost came off the table. Every time he would feel me, I would think, Why is he feeling so much there? That must be another one. I was so afraid he would find it all over me. So he comes around and he starts saying, 'Ah—wow. Hey.' And I said, 'Hey, come on. Say it. What's happening?'"

"My God, Bob," Fenning said, "it has shrunk! It's shrunk seventy-five percent in mass!"

"Two weeks from that day," Gilley went on, "which was two months after I began the imagery, I went through a battery of exams there in Charlotte. Dr. Fenning called me when he had the results of every test they had for cancer, the whole bag, everything, and he was so keyed up that I could hardly understand what he was saying to me on the phone. And what he said to me was that the exams were totally clear. There was no sign of disease in my body!"

WHY SOME SURVIVE

While Carl Simonton was completing his residency in oncology at the University of Oregon Medical School, he found lung cancer patients who continued to smoke, liver cancer patients who persisted in drinking alcohol, patients who didn't keep their appointments for treatment. Even though these patients had reason to believe they could have lived longer if they had listened to their doctors, they seemed not to care. On the other hand Simonton found a small group of terminal patients who stayed alive for many years after their diagnosis. These patients had specific goals that kept them going, a positive attitude, a will to live, and a belief that they *would* live.

In a study of 152 cancer patients at Travis Air Force Base, Simonton found, as he and his wife write in *Getting Well Again*, ". . . those patients with positive attitudes had better responses to

treatment; those with negative attitudes had poorer responses. In fact, of the 152 patients only two who had shown a negative attitude had a good response to treatment.

"The most significant finding of the study was that a *positive attitude toward treatment was a better predictor of response to treatment than was the severity of the disease*. That is, patients who had very serious prognoses but positive attitudes did better than patients who had relatively less serious prognoses but negative attitudes. In addition, patients who began to view their treatments positively often reported reduced side effects."

Intrigued and excited, the Simontons studied such self-help courses as Silva Mind Control and Mind Dynamics. They investigated biofeedback as well, and learned that, in both, participants often used visual imagery to achieve goals, including controlling such internal states as heart rate and blood pressure. Several times a day the patient would relax, picture whatever goal or result he desired, and concentrate on that image. The Simontons give the example of a woman with an irregular heartbeat who visualized a little girl on a swing, swinging rhythmically back and forth. She was soon able to control her heartbeat and to stop taking heart medication.

Simonton first taught this technique in 1971 to a sixty-one-year-old patient with throat cancer. Simonton describes him as ". . . very weak, his weight had dropped from 130 to 98 pounds, he could barely swallow his own saliva, and was having difficulty breathing. There was less than a 5 percent chance that he would survive five years. Indeed, his doctors had seriously debated whether to treat him at all, since it was distinctly possible that therapy would only make him more miserable without significantly diminishing his cancer."

Simonton explained to the patient that he was going to teach him to relax his entire body, then to visualize himself sitting in a very pleasant place. Then Simonton told him to picture his cancer and picture the radiation therapy attacking the cancer, destroying only the cancer cells, which were weaker and more confused than normal cells. Finally, the patient was asked to picture his white cells carrying off the dead cancer cells. The man responded beautifully to this approach: he had no side effects from his radiation; he was soon able to eat again, began to grow stronger and to gain weight. At the end of two months his cancer was gone and he then used the imagery

to rid himself of longstanding arthritis and impotence of over twenty years' duration.

THE SIMONTON PROGRAM

In 1973 the Simontons opened the Cancer Counseling and Research Center in Fort Worth, Texas, where they instructed patients to use these same techniques. Since 1981 the center has been in Dallas. There, they continue to direct cancer patients to picture their cancer cells as vulnerable and disorganized, and to see whatever treatment they are getting as strong and powerful, able to destroy that cancer without harming healthy cells. They also tell patients to see their own immune systems aggressively flushing away dead and dying cancer cells as well as helping the conventional therapy destroy the cancer. They emphasize that the body's own white blood cells, rather than chemotherapy or radiation, should be seen as the most powerful part of therapy. Each imagery session should close with the patient picturing himself strong and healthy, cancer free, and achieving his life goals.

Each person's imagery is unique, but the Simontons have found that weak cancer cells and strong therapy and immune systems appear in all successful visualizations. The Simontons never asked their patients to reveal the specific contents of their visualizations until they had one patient whose condition was deteriorating even though he insisted he was visualizing faithfully three times a day. When they asked him *what* he was visualizing, they found that he saw his cancer as a big black rat and his chemotherapy as tiny yellow pills that the rat would eat once in a while. The pills would make the rat sick, but he would recover. In the visualizations his white blood cells were eggs in an incubator, waiting to hatch. Not only did he see his cancer big and powerful, but his chemotherapy and his immune system were both ineffective. It was no wonder his cancer was growing. Now the Simontons monitor their patients' imagery by having patients draw the images they see every three months. They analyze whatever changes have taken place, helping the cancer patient improve his mental pictures if necessary.

The Simontons use another ancient meditative technique, urging patients to try to visualize an inner guide. These guides are symbols for inner wisdom, and although they are often teachers or

counselors, full of years of knowledge, they don't have to be so serious. Dr. David Bresler, of the UCLA Medical School Pain Clinic, suggests humorous animals, like Freddy the Frog. Another therapist describes a rabbit named Corky who helps him solve his problems. The Simontons point out that these inner guides are important parts of other cultures, and that the guide is an ". . . intuitive, wise, responsive part of your personality with which you are generally out of touch. If you can establish a strong relationship with your Inner Guide, you may receive an extraordinary amount of information and advice about your feelings, motivations, and behavior. The guide can tell you when you are making yourself sick and suggest what you can do to help yourself get well."

The Simontons point out that visualization has a number of benefits. In addition to helping patients focus on healing, it reduces the fear that results from feeling out of control. As patients find they can change their imagery, it gives them more confidence that they can change the course of their disease.

In states of deep relaxation, when the mind is emptied of all thoughts and the brain waves produced in greatest quantities are alpha waves, certain measurable physical changes take place. Breathing rate falls, heart and pulse rate slow down, electrical skin resistance rises, the amount of blood lactate decreases sharply. Deep meditation also increases awareness of the unity of mind and body. Consciousness is not only in the brain, but can be felt throughout the body; during meditation mind and body are perceptively one.

The technique of visualization is an ancient one used in many different meditational disciplines as well as in self-help and motivational courses. A person wanting to lose weight pictures himself or herself in new clothes, thinner, slimmer, feeling proud and attractive. A tennis player wanting to improve his game pictures himself on the court, hitting the ball where he wants it to go. In fact many athletes, from home-run hitters to pole vaulters to golfers to stunt men like Evel Knievel, report that they visualize the result they want.

Australian psychologist Alan Richardson performed a study of the effects of visualization on basketball free-throw scores. Three groups of students participated. The first group made free throws every day for twenty days. The second group made free throws on the first day and the twentieth day only. The third group actually

practiced only on the first day and on the twentieth, but, in addition, on each of days two through nineteen visualized themselves making successful free throws for twenty minutes each day. The first group improved 24 percent between the first and the last day; the second group didn't improve at all; and the third group, *using only visualization, improved 23 percent, only one percentage point less than the group that actually practiced.*

One explanation of the mechanism of visualization stems from the research of physiologist Edmund Jacobson, who found during the 1920s that when experimental subjects pictured themselves engaged in a physical activity their muscles fired as if they actually were performing that activity.

Another more speculative explanation comes from the discoveries of modern physics. The world described by contemporary physicists is one in which the particle no longer exists. When matter is reduced to its final indivisible building block, it is no longer matter, but energy. Thoughts are made of this energy just as a chair, a table, a heart—or a tumor. The only difference between them is that they vibrate at different rates. Theoretically it should then be possible for the energy of thoughts to change physical matter.

Although all reports of the Simontons' work focus on meditation and visualization techniques, that is only one part of a total program that includes group and individual psychotherapy and—when appropriate—a continuation of whatever orthodox medical therapy the patient has been receiving.

There are several important aspects to the Simonton program, beginning with a screening process designed to weed out all but the cancer patients most determined to succeed. When people first call the center on the phone, Simonton asks, "First of all, are you the patient?"

Nine times out of ten the caller says, "No, I'm the wife," or, "a friend." Simonton asks to speak to the patient, and tells him, "I'm going to send you a relaxation tape that I want you to use three times a day every day without fail. When you've done that for two weeks, call me back and then we'll set up an appointment." The patient also receives a lecture tape explaining the program and two books by the Simontons. In addition, each patient receives a battery of psychological tests to take before the first visit.

The Simontons require patients to bring their spouse or closest

family member so that when they return home they have the support of someone who knows and understands the program. Participants come prepared to spend ten days taking part in an intensive program along with three or four other couples. Sessions last from 9:00 to 5:30 each day with a three-hour break for lunch.

Each day begins with a guided meditation and visualization designed to lead patients to a greater awareness of their emotional patterns. During the afternoons the group, generally four or five patients, each with a mate, examines the material that emerged during the morning sessions. On the first day the Simontons and counselors guide patients into a meditative state and have them examine their lives for six to eighteen months before their illness. Patients must focus on the stresses in their lives and how they responded in order to help them understand how they participated in bringing on their illness. In the afternoon the group discusses these stresses and seeks ways to alleviate them.

On other days the Simontons ask their patients to uncover any positive benefits they are gaining from their illness. Sickness, they have found, provides people with a way out of difficult situations and wins them attention and caring from those around them. Even pain has its rewards, as it keeps others aware that the patient must be treated well. A person in pain is obviously excused from dealing with any difficult emotional problems. The Simontons help patients find ways they can obtain these same benefits when they are healthy.

Because Simonton had discovered in medical school that those patients who responded best were those who had compelling goals they wanted to see fulfilled, the Simontons insist that their patients set three-month, six-month, and one-year goals. They urge patients to maintain a balance between goals that can be considered duties and those which give pleasure. Goals imply that the patient believes he will recover and gives him a feeling of control. The Simontons urge that if the patient is getting secondary benefits from his cancer, that some of the goals be ways to achieve these benefits without relying on disease. They encourage patients to use visualization to help them accomplish these goals.

In group and individual psychotherapy sessions the Simontons teach their patients how to overcome negative feelings, including ways to deal with the fears all cancer patients have, fears of recur-

rence and death. Patients are taught to get rid of current and past resentments, and ways to express rather than suppress anger.

Another requirement of the Simonton program is that patients engage in a regular exercise program for an hour a day, three times a week. They point out in *Getting Well Again*, ". . . people engaged in regular exercise programs tend to develop a healthier psychological profile in general—one often identified with a favorable prognosis for the course of the malignancy." The patients who do best with the Simontons tend to be slim and wiry and to exercise regularly. Exercise also gives patients a feeling of control over their bodies and helps them to pay attention to their bodies' needs. "The feeling of vitality and health that you get from regular exercise helps you see your body as a friend, a source of pleasure, something deserving of your care and attention. Asserting your needs through a program of regular exercise is a way of saying that you are important." The Simontons tell bedridden patients to practice whatever physical movements they can do—no matter how limited—and to visualize themselves engaged in a full exercise program.

Robert S. Brown, Ph.D., M.D., professor of behavioral medicine and psychiatry at the University of Virginia, has confirmed these observations in his clinical experience, noting that as a psychiatrist he had never treated a physically fit person. Dr. Brown studied the effects of exercise on depression and found that in one group of new joggers, 38 percent reported depression before they began, while none of the joggers reported depression after eight weeks on a regular running program. It is known that aerobic exercise stimulates the production of norepinephrine, a neurotransmitter in the brain that is associated with good moods. Regular exercise also tends to raise the pain threshold.

Dr. Brown also observed that most cancer patients he saw were not physically fit, and he is currently studying the ways exercise might influence the immune system.

MAN IN THE MIDDLE

Simonton is in the sometimes awkward position of spanning the two schools of thought—the very orthodox and the very controversial. He draws praise from every alternative therapist and many survivors for his brilliant use of meditation and visualization. But many

alternative therapists maintain that he would get even better results if he didn't insist that his patients undergo chemotherapy and radiation, therapies that they feel are immunosuppressive and conflict with the immune-strengthening goals of visualization and meditation. However Flint Sparks, a former counselor, reemphasized that patients should stick with radiation and chemotherapy in those types of cancer where these therapies offer patients the chance of a longer life—the leukemias and advanced breast cancer, for example. "We don't want people to jump at something that's unproven and leave proven therapies. Also, we have a number of patients who have done well with heavy doses of chemotherapy and have had no side effects. This leads us to consider the question of does this *have* to be? If a physician tells a patient before giving him a dose of chemotherapy that it's going to make him *very* sick, isn't that likely to influence the patient's response?" While the Simontons will not treat patients who refuse traditional therapies when such treatments offer them statistically good chances to survive, if the patient has been given a choice by his physician and decides not to undergo orthodox therapy, the Simontons will accept him into the program.

Several alternative therapists have been disturbed by Simonton's disregard of the role of nutrition, but Simonton's attitude has changed. Many patients who come to the center are on nutritional programs with high vitamin supplementation and the Simontons cooperate with those programs unless patients seem to be doing something that might be harmful. The Simontons do discourage patients from looking on diets or supplements as magic pills that will heal them, feeling that this attitude separates patients from their own internal abilities to heal.

Because the Simontons have been so aggressive in teaching their techniques, doctors across the country are beginning to incorporate the Simonton approach into their treatment of cancer patients. Some of these physicians use the therapy with other chronic or life-threatening diseases and many use visualization and psychotherapy in a group setting. For the past four years Dr. Bernard Siegel, a New Haven, Connecticut, surgeon, has used Simonton's methods with ongoing groups. At Methodist Hospital in Omaha, Nebraska, Dr. Ronald Waggener oversees nearly twenty groups, some of which incorporate the Simonton approach. In Newton, Mas-

sachusetts, M.D. Rick Ingrasci runs three- and five-day Simonton-style workshops for cancer patients and their families and has an ongoing cancer counseling group. There is also a Cancer Counseling and Training Center of Westchester, New York, run by William Nuland, M.D.

On the other hand, Simonton does arouse the ire of many traditional psychoanalysts, including Dr. Jimmie Holland, chief and attending psychiatrist, Psychiatric Service, Department of Neurology, Memorial Hospital. When asked about Simonton's work she said angrily, "I get distressed when I feel as if the public is being told you can heal your cancer with your thoughts. And I think that Simonton is doing a worse disservice than Laetrile. It is a *hoax* to tell somebody that you can change the course of your disease when you don't know that you can. His results are totally unscientific. He's published in *The Journal of Transactional Analysis*. He is totally unproven. There is no control; he picks people who want to do imagery; they do imagery and they say, 'Oh, we feel better.' He doesn't bother to tell you about the people who just didn't get better or the people who chose not to do it at all. It's a hoax. I think it's reprehensible, frankly."

Dr. Holland's attitude toward Simonton's work is shared by many conventional psychotherapists. But this attitude ignores Simonton's scrupulous avoidance of any promises of cure and the frankness with which he discusses the patients who didn't respond. Simonton is as cautious in his claims as any orthodox researcher or clinician.

Simonton's work with cancer patients and his struggles with the establishment have taken a great toll on him. According to a spokesperson from the Cancer Counseling and Research Center, Simonton is taking a lesser role these days, but Stephanie Simonton continues to treat patients as a psychotherapist, to train lay people and professionals, and to run the center.

EMOTIONS AND ILLNESS

This hostility the Simontons face also minimizes an enormous body of research showing how deeply mind affects body, just as body affects mind. Any separation is artificial; they are interrelated in a closed system.

The idea that mind can influence the body is the foundation of psychosomatic medicine. The effects of anger, fright, frustration, and depression on the nervous system, glandular secretions, and eventually on organs, muscles, bone, and blood are well known. Dr. Franz Alexander points out in his book, *Psychosomatic Medicine, Its Principles and Applications*: "All our emotions we express through physiological processes: sorrow, by weeping; amusement, by laughter; and shame, by blushing. All emotions are accompanied by physiological changes: fear, by palpitation of the heart; anger, by increased heart activity, elevation of blood pressure, and changes in carbohydrate metabolism . . ."

"All these physiological phenomena are the results of complex muscular interactions under the influence of nervous impulses. . . ."

Perhaps the best-known manifestation of mind affecting body was described by cardiologists Meyer Friedman and Ray Rosenman in their landmark book, *Type A Behavior and Your Heart*. This is the high incidence of heart disease in a group of people who exhibit what is known as Type A behavior, found in a compulsive, anxious, driven, frequently socially and economically successful personality. It is also known that perfectionists tend to get ulcers; hostile people become hypertensive, and so on. As Dr. Arnold Hutschnecker says in *The Will to Live*, "Today we are beginning to recognize that the first danger to length of life may not be the invading germ, nor any physiological process beyond our control. We are beginning to understand that the first line of defense is in our emotional health. If we are emotionally sound, we will be physically sound. Body and mind are one. When we truly want to be well, to live long and in health, we have the power to do it."

The most exciting research in its implications for cancer patients is that which describes how reactions to stress and negative emotional states can directly influence the immune system. The original work to describe a pathway between stress and the growth of tumors comes out of Canadian physician and researcher Hans Selye's studies. His 1950s and 1960s work showed that when mammals are under stress, the limbic system, a ring of cerebral cortex, transmits stress to the hypothalamus, that part of the brain most directly associated with emotions. The hypothalamus activates the pituitary to stimulate the adrenal cortex, flooding the body with adrenal hormones. These hormones ready the body for action—the

well-known fight or flight response. But often action is not possible. We can't blow up at a boss or scream to make heavy traffic move faster. So adrenal hormones stay in our body, affecting the immune system in two ways. They decrease the number of T-cells by causing a marked shrinkage of the thymus, where T-cells originate. Dr. George Solomon of California State University discovered that stress, acting on the hypothalamus of test animals, depresses both humoral and cellular immune response. In addition, at the same time that the immune system is depressed, adrenal hormone imbalances tend to increase the body's production of abnormal cells and susceptibility to carcinogens.

Another link between cancer and the emotions has been postulated by Dr. Leopold Dintenfass, an Australian rheologist studying blood viscosity and its relationship to various diseases. He told me that there is an increase in plasma viscosity, and in the aggregation and rigidity of red blood cells both in cancer patients and in people suffering depressive anxiety and grief. Interestingly, one way to reduce blood viscosity is through bleeding, which was a nineteenth-century therapy for grief.

Dr. Dintenfass said that although at this time there were no scientific data indicating that increased blood viscosity caused cancer, he suggested that cancer cells traveling through the bloodstream could be pushed against blood vessel walls by large aggregations of red blood cells clumped together. Cancer cells would then attach themselves to blood vessel walls and begin metastases. We have seen that the use of blood thinners in lung cancer patients has indeed increased disease-free survival times.

Dr. R. W. Bathrop in New South Wales, Australia, showed that lymphocyte functions were depressed during periods of bereavement but later recovered. If people are stressed at a time when other factors are encouraging tumor growth, then the body may not have the immune strength to combat malignancy.

Experiments at Ottawa's Carleton University in 1979 showed that if mice were injected with live cancer cells and were then subjected to inescapable stress in the form of electric shocks, they developed larger tumors earlier and tended to die sooner than another group of mice that was able to escape their shocks.

Although there have been great strides in the legitimacy of psychosomatic medicine in the past decade, most physicians still

resist the idea that unhappiness, happiness, anticipation, hope, despair, can have other than a transient effect on muscles, tissues, organs—that grossly physical stuff of our bodies. Strength of emotions is less quantifiable than tumor size, and the pathways between them are not yet clear. Observing surgery, it is easy to understand why most surgeons battle the idea that the mind can make profound changes in the body. When you see the solidity of nerves, sinews, muscles, the capillary-filled flesh beneath its thin covering of skin, you wonder how thoughts—intangible, unmeasurable—can change the body's chemical or physical structure. Yet there are more than two hundred articles in the medical literature discussing how personality, emotions, and stress relate to neoplasia. All these articles confirm that there is a relationship.

And, surprisingly, there are a growing number of surgeons who agree that mind/body connections exist and that they exist in all diseases, including cancer. Dr. Theodore Miller, himself a surgeon who roundly scoffed at the nutritional cancer therapists, believes in the connection between cancer and the emotions. Although he would never say that cancer is a psychosomatic disease, in 1977 Dr. Miller gave the twenty-ninth annual James Ewing Lecture to the Society of Surgical Oncology and called his speech "Psychophysiologic Aspects of Cancer."

In that lecture he pointed out: "Patients who are apprehensive about their disease almost always do badly and die rapidly, even though the cancer is treated at an early stage. Conversely, the patient who denies the implications of cancer usually does well." He also stated, "After operating on several patients who expressed great apprehension and fear of death, only to have them die in spite of what appeared to be a normal operative course, I no longer operate on a patient who expresses the fear that he would not survive the operation. I suppose that most of the surgeons here have reached the same conclusion."

Dr. Wallace Ellerbroek is a former surgeon who was so interested in why his patients got sick and why they recovered that he became a psychiatrist. He points out in an article in *Omni*, "Negative emotions are associated with unnecessary disturbances of bodily mechanisms, proportional to the duration and intensity of the negative emotional state. Such reactions are *not* limited to a particular organ. All bodily organs and cells express their response to such

brain states in various ways. If you are angry or depressed about your job, your stomach acids will either go up or down; your blood pressure will go up or down; your glands will increase or decrease their functioning.

"Is there, then, a significant possibility that anger and depression, rather than being normal and necessary concomitants of human existence, are the long-sought variable factors in the development of *all* human diseases, both 'mental' and 'physical'?" He reports that this concept has been very valuable to him in his practice. "I do believe it has enormous potential for the welfare of everyone. It means that you can do something to try to avoid getting sick. It also means that if you are sick, there is something you can do to promote your recovery. And, of particular interest to the medical profession, it eliminates the idea that there are 'untreatable' diseases and affords new approaches to the major human scourges—cancer, coronary artery disease, and hypertension, to name but a few."

Simonton states in *Getting Well Again*, "For years physicians have observed that illness is more likely to occur following highly stressful events in people's lives. Many doctors have noticed that when their patients suffered major emotional upsets there was an increase not only in diseases usually acknowledged to be susceptible to emotional influence—ulcers, high blood pressure, heart disease, headaches—but also in infectious diseases, backaches, and even accidents."

THE CANCER PERSONALITY

Of course stress alone will not cause a cancer to develop. We all have stressful periods in our lives; all of us go through times of bereavement and separation and loss but not all of us get cancer. What is significant is how we react to this stress. In the Carleton University experiments with electrically shocked mice, researchers concluded, "... The inability to cope with the stress behaviorally, rather than the physical stress per se, was responsible for the effects of shock on tumor size." The person who continually displays a competitive, compulsive reaction to stress is a likely candidate for heart disease. Other chronic ailments also appear frequently in certain personality types.

In the past twenty-five years there have been a number of clini-

cal studies correlating certain patterns of dealing with stress and personality types with the development of cancer. One of the foremost researchers in this field is experimental psychologist and writer Lawrence LeShan, who studied more than four hundred cancer patients during the 1960s. In more than one hundred hours of psychotherapy with each of seventy-one patients he found that 72 percent had lost a primary relationship between eight years and a few months before their cancers appeared. These findings were later confirmed by other researchers.

According to LeShan's studies the typical cancer patient loses either a parent or close sibling early in childhood. The patient blames himself, feels deserted and lonely. He has difficulty forming close relationships until he finds someone who becomes central to his life, or until he becomes involved in a career that's tremendously important to him. Then this relationship or job is somehow lost, and the patient is thrust back into his earlier despair and hopelessness. Within a period ranging from eighteen months to several years after this loss the first symptoms of cancer appear. LeShan found this pattern in 75 percent of all the cancer patients he interviewed, while only 10 percent of a control group had this life history.

All of the cancer patients reacted the same way to these emotional blows: They repressed them, denying their importance and significance.

LeShan's findings echo those of Jungian psychoanalyst Elida Evans, who wrote in *A Psychological Study of Cancer* in 1926 that cancer patients tended to put all their energies into one relationship or role, and when that was lost, the patients had no resources with which to cope. In the work of LeShan and Evans a picture emerges of the cancer patient as a repressed, self-denying individual, unable to deal effectively with conflicts and stress. It's important to this person to present a strong positive image to the world, and he frequently denies negative feelings, leading him to feel that he cannot change the things that bother him, cannot even admit them to anyone, must simply bear them.

Suggestions of this picture of a cancer patient date back even earlier than 1926. Ever since the physician Galen observed almost two thousand years ago that cheerful women were less prone to cancer than depressive women, doctors have commented on the connection between cancer and certain emotional patterns.

British physician D. Gendron, in 1701, in *Enquiries Into Nature, Knowledge and Cure of Cancers*, reported on a usually healthy woman whose daughter died, after which she was grief-stricken and developed a rapidly growing breast cancer. He also described the wife of a ship's mate who developed breast cancer after her husband was put in prison. T. H. Nunn, in *Cancer of the Breast*, claimed that the growth of tumors is influenced by emotional states. In 1846 Dr. Walter Hyle Walshe, in *The Nature and Treatment of Cancer*, a definitive book of that time, described the relationship between certain kinds of temperament and the development of cancer. In 1870 Sir James Paget implicated depression as a forerunner of cancer growths. Eminent American physician Willard Parker studied 397 cases of breast cancer and in 1885 announced that these women often suffered from unresolved grief. In 1893 Dr. H. Snow did the first statistical study of emotional states and cancer in 250 patients with breast or uterine cancer at the London Cancer Hospital, finding that 203 of these women had histories of emotional distress. Snow reported that what he called neurotic agencies were the most powerful causes of cancer. He ranked next what he called "distress of mind" and hard work and poverty next, noting that "Idiots and lunatics are remarkably exempt from cancer in every shape."

The cancer incidence is lower in schizophrenics than in the rest of the population. Dr. Miller pointed out that in fourteen years only .00006 percent of the total admissions to New York's Memorial Hospital for Cancer and Allied Diseases have been schizoid personalities. Of those admissions only a little more than half were diagnosed as having cancer. Dr. Miller suggested that neoplastic growth slows down in paranoid patients because ". . . the patient is turning his aggression toward external objects; many of the spontaneous cures of cancer have been in schizophrenic patients.

"There is evidence that schizophrenic patients have abnormal globulins and altered immunologic responsiveness."

In 1946 Dr. Caroline B. Thomas of Johns Hopkins University began a massive study of more than thirteen hundred Johns Hopkins students using physical and psychological exams and annual follow-up questionnaires to see what physical and emotional characteristics contributed to diseases later in life. She included cancer in the study to illustrate a disease that was *not* related to psychological factors, but to her surprise she found that cancer patients were

generally placid, not aggressive, and were not close to their parents, particularly their fathers. Students who later developed cancer had low scores when tested for anger, anxiety, and depression. Although this may seem to contradict the picture of the cancer patient as depressed, the patient also tries to present a positive face to the world, never wanting to reveal how terrible he really feels. He would attempt to hide his depression in the same way on psychological tests.

Other studies confirm these theories. For fifteen years Dr. William A. Greene studied patients with leukemia and lymphoma and found that in nine cases out of ten the disease developed when patients felt helpless, hopeless, and alone, generally soon after they experienced the loss of a major relationship. In another frequently cited study Dr. David M. Kissen of the University of Glasgow discovered that heavy smokers who get lung cancer have fewer emotional outlets than heavy smokers who don't contract lung cancer. He found that the more repressed the smoker the less smoke was needed to precipitate lung cancer. Dr. E. M. Blumberg found that he could predict the rate of a cancer patient's tumor growth if he knew the patient's personality type, finding that those patients with fast-growing tumors were the most eager to present their best face to the world at all times and to have people think well of them.

Dr. Steven Greer, a researcher at Kings' College Hospital in London, found that women who either suppressed their anger or who turned it against themselves and became depressed were more likely to have malignant breast lumps than women who were able to express their anger. Greer went on to discover that patients with suppressed anger had higher blood levels of an antibody that was also elevated in cancer patients.

The late controversial psychoanalyst Wilhelm Reich, in *The Cancer Biopathy*, describes what he calls muscular armoring, a process whereby a person shuts off areas of the body in which there are conflicts by continually tensing the muscles around them. If these centers are shut down long enough, physical changes begin to take place. Decreased blood supply and decreased oxygenation all lead to conditions favorable to the growth of malignant cells.

Of course many cancer patients don't fit or seem to fit this picture. It may be one contributing factor to some cancers, but may not be involved in all. Some survivors and patients I talked to ob-

jected violently to the notion that they were responsible for their own cancer. Stephanie Gullett, her thin body lying on an examining table in Dr. Virginia Livingston's office, her face lined and sunken, her eyes a deeply penetrating blue, told me firmly that she couldn't accept the notion that the mind had played a role in the formation of her cancer.

"I'll tell you, I think that the mind has a lot to do with psychosomatic illness and all that, but with this cancer deal, I just can't believe it. I just *can't*. I haven't had any traumatic deals like loss or anything like that. In fact, I've had a pretty good life." Although she comes from a family that has a lot of cancer, Stephanie says of them, "I can't see any trouble in their lives. They were happy people. I can't help but accept the fact that it's viral and that's why it's spreading so rapidly across the country."

Author Susan Sontag objected to Simonton's point of view in her book *Illness as Metaphor*. Herself a cancer patient, Sontag holds that emotions have been implicated in cancer only because its underlying cause and therefore a reliable cure have not yet been discovered. She points out that before the tubercule bacillus was isolated, tuberculosis patients were described as artistic, passive, and weak. Once vaccines were developed that cured tuberculosis, however, these emotional prototypes were abandoned. Sontag foresees that when a cancer cure is found, the emotional theories about the disease will no longer be of value.

However even if a pathogen is found to cause cancer, emotional factors need not be ignored or eliminated. There is a wealth of evidence that we are more susceptible to bacteria and viruses when emotional upsets have depressed our immune systems. Might not certain emotional constellations make people more prone to tuberculosis, others to cancer, still others to the common cold?

Several cancer patients and physicians told me they thought it horrible that the Simontons, who use the idea of responsibility for illness in their therapy, make women feel guilty for getting breast cancer. The Simontons, however, point out repeatedly that their goal is not to make patients feel guilty, but to help them recognize self-destructive behavior patterns and to use this knowledge to change in beneficial ways. The majority of cancer patients I've met saw a clear and relevant connection between their cancers and their lives. These patients agreed with the Simontons, who write, "Since

emotional states contribute to illness they can also contribute to health. By acknowledging your own participation in the onset of the disease, you acknowledge your power to participate in regaining your health and you have also taken the first step toward getting well again."

EMOTIONS AND HEALTH

Despite objections, there is a respectable body of scientific literature implicating the emotions and psychological factors in the onset of cancer, although there is a lack of hard scientific data proving that there is a similar pathway between positive emotions and healing any disease. One researcher, Dr. Vernon Riley, set up an animal experiment where he reduced stress. Using a strain of mice that normally develops breast tumors at between eight and eighteen months, Riley insulated their cages, cut down the number of times they were handled, got rid of loud noises, kept temperature at an even level—in short, coddled his mice. Usually 90 percent of these mice develop breast cancer by the age of thirteen months. But only 7 percent of Riley's unstressed mice had breast cancer at that age.

There is a wealth of anecdotal material that positive emotions can be therapeutic; one of the best-known cases is Norman Cousins' recovery from a near-fatal collagen disease using laughter therapy and large doses of vitamin C. Perhaps scientific studies have not yet been done because it is difficult to measure strength of belief and will to live, and also because medicine is the study of disease, and there is a dearth of scientific data on all aspects of health.

Simonton postulates that there is a pathway for returning to health, which begins when patients start to believe that treatment is effective and that their own defense mechanisms can successfully battle their disease. Then through psychotherapy patients become aware of their self-destructive behavior and learn to cope more effectively with the stresses in their lives. Once a patient believes he can recover and sees that formerly insurmountable life problems can be resolved, he begins to hope and to anticipate life again. The limbic system records these feelings, just as it recorded feelings of despair and depression. When the hypothalamus receives these new messages, it theoretically alters its orders to the pituitary gland, reducing the amount of adrenal hormones and restoring the immune

system to competence as well as decreasing the numbers of abnormal cells.

Or perhaps completely different mechanisms are involved. One piece of scientific data relating belief to physical changes comes out of placebo research. At the end of 1978 University of California researchers Drs. Jon D. Levine, Newton C. Gordon, and Howard Fields gave placebos—ordinary sugar pills—to patients in pain. The patients believed these chemically inert pills to be painkillers and a percentage of these patients reported relief of pain. The researchers found that the brains of these patients had produced proteins called endorphins, natural opiatelike substances. Although further experimentation must be done, at this point it appears that merely the *belief* that the sugar pill will work creates the physical changes.

That discovery indicates the route by which placebos may work to alleviate pain, but relief of pain is not the only action of these tablets, which have no pharmacological value. They have relieved depression in patients who had responded to antidepressive drugs. When the drugs were stopped and placebos substituted, the patients responded just as well to the placebos. Placebos have reduced tremors in patients with Parkinson's disease, decreased pulse rate and arterial pressure, have helped to heal warts—and ulcers—and have even extended life spans. As Norman Cousins suggests, ". . . many medical scholars have believed that the history of medicine is actually the history of the placebo effect." He points out that the weird pharmacopoeia of the past, with its frequent use of lizard's blood, sea sponges, crab's eyes, powdered mummies, and other substances was just as "medically respected" as Valium, penicillin, cortisone, and the rest of today's medicine chest.

Dr. Herbert Benson, of Harvard Medical School and author of *The Relaxation Response*, states in the *New England Journal of Medicine* that during the last two hundred years every medication used for angina pectoris (chest pain) was effective between 70 and 90 percent of the time when it was first introduced. However its effectiveness would fall to between 30 and 40 percent as soon as a newer therapy appeared. Benson postulates that it was both the belief of the physician in his remedy and the belief of the patient in his physician that was responsible for each new drug's effectiveness, this belief somehow creating physical changes. Simply because the mechanism of this action has not yet been explained, a huge body of

potentially valuable therapeutic information has never been put to systematic use.

Another medical technique that can create significant physical changes has not yet been fully exploited as a cancer therapy, but has enormous promise for cancer patients as well as for patients of any chronic disease. This is biofeedback or autogenic training, developed in the 1960s, and based on the knowledge that we can learn to regulate our internal states, including the autonomic nervous system, formerly thought to be beyond our conscious control. This control is taught using machines that produce a tone or flash a light whenever the person is in a certain physical state. Eventually the person learns to identify that tone with a certain feeling and how to produce that feeling, thereby controlling the physical state.

For example, to learn to relax, subjects are hooked up to an electromyograph (EMG) machine, a machine that measures muscle tension. Electrodes from the EMG are usually attached to the frontalis muscle on the forehead, one of the first muscles to tense when a person is under stress. Whenever that muscle relaxes, the subject gets a signal, generally a tone or a flashing light. The subject is instructed to produce the tone or activate the light. Although at first it seems impossible to figure out what produces the signal, after five or six sessions the subject identifies the trigger: either a feeling, thought, or image. By thinking that thought or re-creating that feeling, the subject can produce the tone at will, in the process relaxing his muscles. Soon the subject can re-create the feeling without the machine, simply by doing whatever he did to start the tone when he was hooked up to the machine.

Biofeedback machines are now used to teach people to control brain waves, blood pressure, heart arrhythmias, blood flow, and to eliminate migraines. At the Menninger Clinic, Elmer and Alyce Green, two of the leading figures in biofeedback research, have also reported that diabetics' need for insulin decreased when they learned deep relaxation. It has long been known that insulin secretion and action is reduced by adrenaline. Researchers at the Yale University School of Medicine recently discovered that minute amounts of adrenaline, released during periods of stress, can also reduce glucose tolerance in healthy humans even when insulin levels are high. It follows that as diabetics learn to relax and to reduce stress, they have more insulin available and their bodies can handle glucose better.

The number of clinical applications of biofeedback keeps growing, and it is not farfetched to imagine a biofeedback device that could be implanted in a tumor that would give information on its growth or shrinkage. Eventually a cancer patient might learn to control tumor growth or proliferation as easily as a tense person can learn to relax.

HYPNOTHERAPY

Psychotherapist Bernauer W. Newton, director of Los Angeles's Newton Center for Clinical Hypnosis, has adapted the Simonton method to hypnotherapy. Dr. Newton opened his center in January 1975 and employs between eight and ten psychiatrists and clinical psychologists, all trained in the therapeutic use of hypnosis. The center is primarily an outpatient mental-health clinic working with individual patients and in groups on such problems as drug abuse, psychosomatic illness, neurosis, and sexual dysfunction. The center also enrolls cancer patients in a two-part program, combining hypnotherapy and psychotherapy.

Before opening the center Newton had worked for many years with cancer patients as a hypnotherapist, helping them to control their pain when their drug tolerance had been exhausted. "When a person is hurting badly and can't sleep and is terribly frightened and is nauseated and weak and trembling most of the time, you can't expect him to be terribly enthusiastic about going on with his life, especially if he doesn't think things are going to get much better. And so sometimes his apathy is at least in part a consequence of how he's experiencing himself at the moment, and there are things we can do about that."

Newton told me with some chagrin that it wasn't until he heard of Simonton's work that he realized he could be using hypnotherapy to do more than reduce pain. Although Newton feels that for patients who are able to enter really deep meditative states there is essentially no difference between a meditative state and a hypnotic state, he said, "I think that in the hands of a skilled hypnotherapist the individual is able to enter a more profoundly altered state of consciousness more easily, quickly, and consistently than he can attempting to meditate."

Newton stated that the hypnotic state is valuable in many ways. "First of all, it improves the quality of the person's life, regardless

of what else happens. Of one hundred forty-seven patients we studied, all but two reported a significant improvement in their quality of life. By so doing, it makes that individual a person who is much readier to enthusiastically and with energy and determination and a sense of optimism and belief engage in the ongoing program of helping himself to stimulate his healing process in his body. It facilitates the alteration of the state of consciousness of the individual in such a way that, I believe, his visualizations are sharper, clearer, and have more impact, and we feel that the visual imagery is facilitated under hypnosis, in this altered state of consciousness."

Newton believes that there are frequently, if not always, psychological factors that make a person tumor prone. Hypnotherapeutic techniques can both uncover those psychological factors and can also help patients change them to assist the healing process. "So we use hypnotherapy as a facilitative agent in all the things that we're trying to do, in all aspects of our program," Newton told me. "We even use it in our groups occasionally, as it tends to break down barriers and makes it easier for people to relate to each other. People are open and authentic with each other."

The center also works with hypnotic tapes but, unlike Simonton, Newton doesn't use ready-made tapes; instead he tapes each patient's hypnotic session to provide him with a tape that can be used for his own problems. Very quickly, however, Newton teaches patients to hypnotize themselves, as that offers the greatest flexibility, and, as he observed, "The major message is the same as Simonton's: 'I can't cure you and the tape can't cure you, but *you can*.' "

Newton also emphasized the importance of the psychotherapeutic aspect of the program. "Everybody who thinks about cancer treatment along the lines that we're talking about focuses on the hypnosis, and on visualizing the cancer and the immune system interacting and defeating the tumor, and so on, and that's all very dramatic and hot stuff, but where the real war is won and lost is in the trenches, where you have to really get down and deal with these people psychotherapeutically."

He discussed the major problem he faces in that area, explaining, "The cliché is 'Nice guys get cancer.' By that we mean people who seem to be nice on the outside because they stuff all their bad, angry, hostile feelings inside. We have seen people who we *know*, based on our clinical judgment and observations of various sorts, are

enraged inside, who literally behave as though they are saying, 'I would rather die than to let this out.' And we find that a large number of individuals who do not respond to our treatment either will not, or cannot, in the length of time that we are able to work with them, turn that lifelong pattern around and get in touch with their feelings and begin to learn how to constructively express those feelings."

The psychotherapy program at the Newton Center begins with individual therapy. Patients are introduced into an ongoing group fairly soon after beginning the program. Groups consist of between eight and ten persons: four or five cancer patients and four or five spouses and two therapists. Newton urges that a mate be present, but it isn't mandatory.

Newton reported to me that he had initially met with a great deal of orthodox medical resistance to his methods, but that three oncologists now refer patients to him on a regular basis. The negative attitude of orthodox physicians is slowly changing as oncologists realize that Newton can help them in many ways. "For example," he explained, "a patient who becomes nauseated by chemotherapy sometimes becomes nauseated before he gets the shot, on the way to his appointment. He develops resistance to the treatment and becomes more difficult to deal with. In many cases we can totally remove this nausea and vomiting. The patient is more comfortable, more cooperative, has a better attitude towards going for his treatment, is more willing to talk to the doctor, is more willing to seek help from the doctor when he needs it, and so on."

In those cases where psychological factors play a major role in the development of tumors, Newton believes that what he does in his treatment programs has more effect than the traditional medical treatment that is available. Although he urges cancer patients to continue seeing their oncologists, he stated, "We have worked with quite a number of patients, who, for one reason or another, either have refused medical treatment, or have been told there is no medical treatment, or have been told that they have had all the medical treatment they can have. A significant number of these people have reversed their disease process and are now disease free."

The center doesn't see many patients who are using alternative therapies, but, Newton observed, "The UCLA Medical Center has an immunological group, and my personal feeling is that they seem to

be responding better. Now, I don't know whether it's better because the nontoxic therapy is more effective, or whether we're more effective in the face of nontoxic therapy. We do believe that what we are doing may very well have a positive effect on stimulating the immune system. And we do know also that the chemotherapies, for example, tend to suppress the immune system. So to some extent we must be working at odds with each other. We're finding that a larger number of people are responding better who are either on nontoxic therapies or are on *no* medical treatment, than those who are in the more toxic forms of treatment. But our numbers are small, and I must say that it is a very tentative and preliminary observation."

When patients turn their disease around while they're taking conventional therapy, it is hard for Newton to know what part he has played. "But even in those cases, when we look at the national statistics for a particular kind of medical treatment with this particular kind of tumor, and we find that, let's say, two percent of the patient population who have this particular kind of disease have had remission following this particular kind of chemotherapy. When we have maybe three out of six who have responded very well and are now disease free, that's so much better than the national average."

He told me of one young man whose cancer of the scrotum was removed but returned again and was removed again. "It then metastasized to a large mass on his kidney, which was inoperable, and he was on chemotherapy for a year, but he was so miserable that he kept begging his parents to let him off chemotherapy, even if it meant that he was going to die." Under chemotherapy the tumor had been stable, neither reducing in size nor growing.

"Two weeks after it was agreed that he could get off chemotherapy, he came to see us. Ten weeks later the report was that the tumor had reduced one third in size. And about four months later the shadow that was still on the film was obviously scar tissue. In the meantime he had gained back his weight, and he had lost the ulcers in his mouth, the skin on his hands and feet had returned, his hair had grown back; he stopped vomiting; he was weight lifting, and he played tight end on his high school football team in his senior year."

Newton also told me the story of Sylvia Zuckerman, who had advanced ovarian cancer. "It had metastasized to other areas, and she was on chemotherapy. Her doctor was giving her all kinds of messages not to get her hopes up, that she wasn't going to live very

long, and don't forget, we can't continue to give this chemotherapy to you forever. And she got well. She was a *fighter*. She really was a fighter. She's one of the best patients we've ever had in that regard.

"She went back to her physician after second look surgery revealed no cancer whatsoever. She asked him how he explained this. He said, 'Well, the chemotherapy obviously worked.' And she said, 'Well, I don't buy that. You told me some statistics from M. D. Anderson one day. You said that with my kind of cancer, and with my kind of treatment, I think out of six hundred cases, there were something like eighteen complete remissions. Is that correct?' 'Yes,' he answered. She said, 'Well, that's pretty lousy odds, isn't it, to give the chemotherapy all the credit?' She's a very, very devout believer in what we're doing."

When I talked to Sylvia, she told me that in May 1976 she had had extensive surgery for massive carcinoma involving her omentum and ovary. She read me her doctor's diagnosis: "Although the ovary, the omentum, and a large mass were removed, numerous rock-hard nodules were left intact since they were so widely scattered throughout the intestines."

A firm believer that the mind can affect the body ("I believe in everything Norman Cousins believes in," she told me), she started going to the Newton Center in August 1976.

On June 15, 1977, after she had undergone eleven courses of chemotherapy and had been visiting the Newton Center for nearly a year, her doctor performed a laparoscopy, a minor surgical procedure where a lighted instrument is introduced into a small incision in the navel. The doctor uses this light to examine the peritoneal cavity. Another small incision is made to insert an instrument that takes tissue for biopsies.

Sylvia read from a medical report made at that time: "The malignant nodules were no longer present, nor were there any signs of any tumor. A specimen of abdominal fluid was taken. Both the cytology report and a personal examination of the slides revealed that no malignant cells were present," she ended on a note of triumph.

Sylvia was justifiably proud of this report. "You see, I had always visualized there being *no* cancer. And that's what happened." She laughed.

Sylvia is aware that her good health may be a reprieve. She told

me, "That letter that I read you from the doctor, if I ever show it to a doctor or a nurse, they get this veiled look in their eyes, which I just despise, and what it says is, 'That fool. Little does she know. It might come back tomorrow.' And, in truth, it might. But they want me to *plan* on it. I won't do that; I want it said of me that I spent my life *living* and not *dying*."

9.

THE CANCER PATIENT'S DILEMMA

Throughout the history of medicine patients have been passive—victims of disease with little choice but to trust their doctors' expertise. For the layman cancer and its treatment have been particularly mysterious. But now, spurred by the limitations of cancer medicine and inspired by the extensive U.S. consumer movement, cancer patients are beginning to realize that if they want the best possible treatment, they may have to help select it. There are frequently several options within orthodox medicine, and the alternative world offers scores of established treatments and more than a hundred doctors and researchers.

These two approaches to cancer—the first destroying the tumor and the other directly or indirectly building the immune system—are not mutually exclusive. Yet there continues to be a vast gulf between traditional medical science and the alternative-treatment cancer world. This distance is narrowing as medical research accumulates in support of the alternatives and as some of the alternatives acknowledge the value of orthodox elements. In the next few years each modality undoubtedly will adopt parts of the other. But at this time the cancer patient who wants to use the best of both will probably find himself caught between the two without the full support of either.

Most oncologists still refer to alternative therapists and therapies as worthless quackery while alternative spokesmen describe surgery, radiation, and chemotherapy as "Cut, burn, and poison." I spoke to many patients who were supplementing their orthodox treatments with diet and vitamins and who were afraid to tell their physicians what they were doing. At best the response was likely to be, "What do you want to waste your money for? Vitamins don't have anything to do with cancer." I also spoke to a few patients who had been so influenced by the warnings of the alternatives that they rejected cancer therapies with a high success rate because they feared the damage that could be done by surgery, radiation, or chemotherapy.

The truth, insofar as it can be discovered at this point, lies somewhere in between. If cancer patients are to find it, they must first learn about all treatment possibilities, taking the unusual and possibly uncomfortable step of educating themselves in a realm we are all used to delegating to others: our own bodies. Once they have decided what to do, then patients must be prepared for the emotional arguments they are likely to encounter on both sides. Only by understanding what is rhetoric and what is real will they know which therapies offer them the best chance to be cured.

A PATIENT'S EDUCATION IN ONCOLOGY

Patients who seek alternative treatments must be wary, must ask tough questions of alternative practitioners, check the answers against medical research and the advice of traditional physicians. But patients who are primarily interested in orthodox therapies must be just as aware, alert, and knowledgeable at a time when it is most difficult to think clearly.

Because so many cancer patients begin battling their disease with conventional treatments, I asked leading oncologists around the country to address some of the issues that cancer patients raised again and again as I researched this book.

Cancer patients always told me that the diagnosis of cancer hit hard, often creating such panic that they were numbed. Their need for reassurance and facts from their doctor was great. When I told oncologists that patients frequently complained of not being able to get information from their genuinely busy doctors, many countered

that patients usually *did* get information, but that because their diagnosis was so traumatic they didn't hear or absorb what their doctors told them.

Surgeon Edward J. Beattie, Jr., general director and chief executive officer and chief medical officer of Memorial Hospital, described a study done by surgeon George Robinson at Montefiore Hospital. With his patients' permission, Dr. Robinson taped his preoperative conversations with a group of them, particularly those about to undergo valve replacement, which is much more complicated than bypass surgery. Some six months later he talked to them about those conversations. Dr. Beattie explained, "Basically nobody believed that he had said or they had said what they heard in the tape. It was essentially a total blackout of everything that had happened in that state of shock they were in at the time. Now, this is not an isolated event. This is a fairly common occurrence for both patients and relatives, and the more serious the situation, the more the shock. The human brain just suppresses all this stuff. So consequently, when somebody says, 'He didn't answer my questions,' the first question is, 'Are you sure he didn't?'"

To counteract this syndrome, at Memorial patients are shown videotapes about their kind of cancer and learn what they can expect from treatment. Germany's Dr. Hans Nieper requires that his patients tape-record their visits, so there can be no question of what's been said. Listening to tapes of consultations, patients probably will hear information they missed the first time, will be reminded of new questions to ask, and of any worries the doctor might not have fully resolved. Patients should come to every doctor's visit with a written list of questions and should ask *all* of them, even those once vital issues that suddenly lose their urgency in the face of a doctor's quick glance at his watch.

Malcolm Mitchell, M.D., Chief of the Division of Medical Oncology at the University of Southern California Cancer Center, told me that patients could get information by seeking a second opinion. "Patients frequently do that just to get information that might have come from the primary doctor."

Dr. C. Gordon Zubrod, Director of the Comprehensive Cancer Center for the state of Florida, said, "There are hot lines at most of the comprehensive cancer centers (see Appendix, page 373) with trained volunteers who are very, very good at answering general

questions about the disease, but of course can't comment on the patient's own situation."

Director of the National Cancer Institute Vincent De Vita, Jr., described another factor that can make it hard for patients to get information, saying, "Sometimes patients don't make it as apparent as they could that they really want information. Patients tend to be shy sometimes. They're afraid to ask the doctor and bother him. Patients are often very shy about asking questions about the prognosis and so forth. When I was chief of medicine over at NCI's clinical center, I used to go in at night and make rounds. I would sit at the foot of a patient's bed, and it was often a signal. I'd sit there and talk to them and often they would open up a little bit more under those circumstances than when I would walk in with six doctors in white coats with stethoscopes around their necks."

Of course, as Dr. De Vita's story illustrates, when patients complained about not getting information from their doctors, they were also complaining that they weren't getting enough attention. Most oncologists admitted that there were doctors who did not take the time to communicate with their patients. Sometimes paramedical personnel can offer both facts and friendly support. Says De Vita, "We have nurses who administer our chemotherapy. And we found out that they were being used to get additional information, as listening posts, and to provide a little psychotherapy. That kind of thing can be done by paramedical personnel in a doctor's office if the doctor has them."

In an interview shortly before his death in December 1982, I asked Dr. Fred Conrad, vice president for patient affairs at Houston's M. D. Anderson, if there were any effective ways he had seen patients use to get the information and attention they needed. "The most effective way that I have seen is when a patient has come in and said, 'I am scared. I am concerned. I want a doctor that I can relate to and talk to. Do you have time for me? If you don't have time, let's call a halt right here.' You find that you never forget those patients, and you always take the extra special time—you sit down when you're finished and say, 'Now, what else can we talk about?' That's the best way I know: just right up front with the physician, say, 'This is too important to me to feel that you're hurried.'"

Adding to the stress of a cancer diagnosis is the physician's emphasis on rapid action. Cancer patients are usually made to feel

that they don't have the time to seek any information, that they must decide and act immediately. However, most oncologists told me that in only a few types of cancer is the need for immediate treatment that urgent. According to Malcolm Mitchell, "If a person has acute leukemia where the blood count is rising every few hours he would have to get treated right away. Also, if there was some significant complication from the cancer when it first presented—like significant bleeding or bowel obstruction, or an obstruction in lung cancer so the patient couldn't breathe. With those exceptions—something that was really pressing on a vital organ, preventing a patient from breathing, or otherwise threatening life—I think there's time for a second opinion."

Vincent De Vita said, "In my view it's a rare occasion when you can't seek a second opinion. I can only think of very few cases—like a Wilms's tumor in childhood. With the development of a large renal mass in a child, one tends to move rapidly."

Several oncologists singled out breast cancer—even advanced breast cancer—as a type where women could comfortably delay action until they had all the facts and had decided rationally which treatment offered them the best chances for survival.

When I asked Dr. De Vita how long most newly diagnosed cancer patients could safely wait before beginning some sort of therapy, he admitted there was uncertainty in the field. "We don't know for sure. We used to think it didn't make an awful lot of difference if you waited several weeks. There is some evidence that cancer cells can do things that we don't like in a matter of a few weeks, depending on the cancer type, so my advice would be that it ought not to be put off unnecessarily. I don't think a matter of a few weeks makes a difference in most cases, but a few days is probably safer." Dr. Zuidbrod pointed out that second opinions can be obtained very quickly. "With Federal Express and telephone you can have it the next day."

Most of the oncologists I spoke to emphasized the necessity for a second opinion, particularly a second reading of the biopsy slides by a good pathologist. When I asked Dr. De Vita for the one most important piece of advice he could give to a newly diagnosed cancer patient, he said, "Get a second opinion. I'll tell you a story. You can draw whatever conclusion you want from it. I've taken care of a fair number of doctors in my time, and I have never taken care of a doctor who hasn't had his slides read by more than one pathologist,

okay? So it seems to be something that concerns doctors a good deal. It's not uncommon, for example, if somebody makes a diagnosis of a lymphoma at a general hospital, to have the physician find the name of a lymphoma specialist and then send the slide to that doctor's pathologist, because generally a specialists' pathologist will have more experience with that particular disease."

Most of the leading oncologists I spoke to claimed that outright wrong diagnoses—calling cells cancerous when they were not—were extremely rare, but they did talk about the frequency with which one type of cancer is mistaken for another. As in most comprehensive cancer centers, many patients come to the University of Southern California Cancer Center for second opinions. According to Malcolm Mitchell, the original diagnoses they see tend to be accurate about 90% of the time. "Ten percent of them were changed in some way—maybe they were a little bit less malignant or a little bit more malignant than the original pathologists thought." About 2 percent of the slides were not good enough to permit a firm diagnosis of cancer and required a repeat biopsy or examination of another part of the tissue sample. "And occasionally we've actually had one or two cancers that looked like a certain cancer but really weren't. They were called by our pathologists something very different from that of the original diagnosis." Dr. Mitchell points out that if any good pathologist is unsure of the diagnosis in a case, he will automatically send the slides away for a second opinion.

Errors in diagnosis can have devastating effects on treatment outcome. Dr. Zubrod says that when a patient is sent to him for consultation he gets the patient's biopsy slides and the block of tissue from which the biopsy was taken and has them reviewed with great care by the best pathologist he can find. "The whole management of cancer depends on what the pathologist tells you. If he sends you down the wrong direction, you really are lost. It's not only with respect to the exact kind of cancer it is, but it also relates to how much cancer there is, is it truly localized, has it spread to a lymph node, and so on."

When I asked if there were any one place in the United States where patients could find the best possible pathologists, two oncologists recommended the Armed Forces Institute of Pathology (6825 16th Street NW, Washington, D.C. 20306, 202-576-2800), which has a consulting service. Dr. Zubrod said, "It's one of the best pathology

institutes in the world. They're delighted to take consultations. If one pathologist says it's lymphoma and the other says it's Ewing's sarcoma, you get them to send it off to the Armed Forces and find out what it really is."

Sometimes the most appropriate time to get a second opinion may be before there has been a cancer diagnosis. Because I had heard stories from so many cancer patients about months or even years of missed diagnoses, I asked oncologists how patients could deal with this. Malcolm Mitchell told me, "If you suspect you have a cancer and your doctor says he can't find anything, maybe then is also the time to think about a second opinion, particularly if you have a strong reason to suspect that you might have something seriously wrong. See another doctor. It needn't even be a cancer doctor, but pursue it more. Patients have more rights than they give themselves credit for. It's their life and they should pursue it beyond their primary doctor if they think it's necessary." Edward J. Beattie was equally emphatic. "It's your responsibility. It's your life. If you've got a lump on your breast and somebody says, 'There's nothing to it; come back and see me in six months,' go to another doctor. But don't just go to any other doctor. Go to one who knows what he's doing in breast: that's the time to go to the library, look them up and find out what their credentials are."

Perhaps some of these missed diagnoses are a result of what Dr. Beattie describes as ". . . a bad habit. You see, if somebody can't do something elsewhere in the country or the world, they say to the patient, 'Well, you've got a bad inflammation and it's going to take a long time to get over it,' and tell the relatives, 'Well, you've got a hopeless situation, it's terminal, don't do anything.' So the family lies to the patient for six months and the patient deteriorates and finally comes here, and then we've got a real problem."

Once a firm diagnosis has been made, the patient's education must really begin. Many patients may be too depressed and upset at this point to seek out information. They must learn to convert the energy of fear into action. Newly diagnosed patients who are immobilized by feelings of hopelessness should find survivors who had the same type of cancer, discovered at the same stage. Talking to survivors has often inspired a depressed patient with the confidence that he, too, can get well. Patients can do this immediately after diagnosis, either by asking the doctor or by contacting an organiza-

tion that brings new and recovered patients together (see Appendix, page 379).

When a patient is able to act he must not only find out everything he can about his type of cancer (see How They Survived, page 339), he must also seek the best possible treatment. Vincent De Vita emphasizes the urgency of finding the best specialist. "If patients realize that cancer is a curable disease almost half the time, then they ought to be very concerned if their doctor says, 'You've got cancer; you ought to get your affairs in order.' Many of the changes that have led from a 35 percent cure rate up to half are relatively recent, and many doctors may not know about them.

"I have a classmate—a neurosurgeon—who developed diffuse histiocytic lymphoma about ten years ago, a formerly fatal disease. We pronounced it curable in about 1974 as a result of studies that had been going on for some time. This friend had been told to wind up his affairs and he figured that it was probably true, but he knew that he ought to ask somebody else. He called me and asked what we could do. I said, 'We can cure it half the time. But it's tough.' And he said, 'Well, it's tougher to die in the middle of my neurosurgical practice.'

"So he came here and we treated it and he had all the side effects and went into remission and has been in remission for nearly ten years. He's been fine, alive, well, happy, is back practicing neurosurgery—and marvels often at how close he came to dying. He was very upset that he had almost slipped through the crack. And he had been handled by a physician who had a label that indicated that he was up-to-date with all these things.

"I could regale you with story after story of patients who just barely missed losing out on an advance that was not yesterday, but was five years old. It happens all the time. I daresay a month doesn't go by when I don't have a call like that, where the doctor tells a patient there's no hope—not maliciously—but they just don't realize that times have changed."

Dr. De Vita said, "Any cancer, but especially those cancers that are on the edge between new therapies developing and being uniformly fatal, should be handled by people who have experience with them. It's very simple, but it's amazing how often it's overlooked.

"For example, a trained oncologist—a doctor who's gone through a training program in medical oncology—who has been in

practice two or three years and sees one or two Hodgkin's cases a year ought not to be treating Hodgkin's. But I suspect that in many cases they do. Their argument would be, 'Well, I'm just not going to get any better if I don't see them.' But I think they have to make a judgment decision. Somebody who doesn't see a dozen or so cases of Hodgkin's disease a year is probably not going to be able to keep up with the field. It's not that common a tumor.

"It sounds outrageous in some quarters—a lot of doctors arch their eyebrows, but a patient might ask a doctor, 'Do you see a number of patients with this kind of disease?' If the doctor says, 'Well, I see about one a year,' then if it's a curable cancer but has complicated therapies, I would be inclined to ask for a referral to somebody who does see more cases. And that may be somebody down the street who is also in practice, who just sees a lot of those kinds of cases."

If a neurosurgeon like Dr. De Vita's colleague had trouble finding such an experienced specialist, how can a cancer patient without benefit of medical training expect to discover one? Oncologists suggested several ways that patients can find out who offers the best treatment for their type of cancer. According to De Vita and several others, the best method is by consulting NCI's newly installed Protocol Data Query (PDQ), a computerized listing of 600 clinical trials sponsored by NCI. The listing, updated monthly, describes the protocol used in each trial, its objectives, and criteria for patient acceptance. It also gives the names and telephone numbers of physicians to contact. At this writing the database is available only to medical doctors or through the Cancer Information Service telephone numbers (see Appendix, p. 372), but by July of 1983 patients should be able to hook into an expanded listing themselves.

A few doctors thought different methods might be better. Some said patients should call cancer hot lines at cancer centers; others suggested calling the appropriate certifying body. To find a medical oncologist, for example, a patient might call the American Society for Clinical Oncology at 435 North Michigan Avenue, Suite 1717, Chicago, Illinois, 60611; for a surgeon who specializes in cancer, the Society of Surgical Oncology, P.O. Box 1565, 13 Elm St., Manchester, Massachusetts 01944. Oncologists are found not only at the major cancer centers, but in larger community hospitals, general hospitals, academic medical centers, and in private practice.

Dr. Mitchell at USC said he thought patients might get even better information by getting personal recommendations through cancer centers. "I would look for cancer centers where they're doing research at the time on those diseases. Patients can best find this out by going to any cancer center and asking. People at any one center would generally know what others are doing. I think the PDQ System is not bad. The patient can get a lot from it. But I'm saying that people in the field often have a lot more personal information than is available in compendia. While PDQ is all right for finding out what's going on in general, evaluation is also important, and a doctor can help evaluate not only what's going on but how good it is and how good the people are."

When I asked Dr. Mitchell if he would give me the names of people he considered good, he said that he would not do that for a book: centers changed their major research studies too rapidly and if he named a few good people, he would certainly leave some out unjustly. But he did say that he gave such information to patients who called him. "Even though I'm telling you that I won't name names, I name names to a patient. I'll say, 'I know three people who are great in this disease and whoever is closest to you, wherever you want to go, I'll make the contact.' I'll often talk regionally too—if a patient calls in from Connecticut, I'll mention specific people in the northeast who do good work. If they're from Northern California, I might mention a doctor up at Stanford or somebody down here."

Mitchell was not the only oncologist I spoke to who would not name names for print: very few gave me specific names and places. But nearly all indicated that they readily gave such information to their own patients and to patients who called. As busy as they are, directors of comprehensive cancer centers and university cancer centers seem to enjoy helping patients in this way.

Once a patient has found a doctor who seems acceptable, he should ask for hard facts. Where did the doctor get his degrees? How long has he been practicing? How many patients with the same type of cancer at the same stage has he treated? What are his results? Dr. Emil Frei, III, Director of Boston's Sidney Farber Cancer Institute, and co-editor of *Cancer Medicine*, says he would ask of any physician, "Are you treating with curative intent?" Can the patient talk to some survivors? What is the treatment protocol the doctor suggests? How long has it been used? What is its success rate? What

long-term and short-term side effects are there likely to be? Where have the latest studies on the various treatment protocols and survival statistics been published? Patients who take part in a clinical trial must sign an Informed Consent Form, which they should read carefully and make sure they understand.

In general, most oncologists said that for early, easily treatable cancers patients could do well at a local hospital. Ironically, in those diseases with the poorest prognoses oncologists also suggested that patients stay close to home. A typical comment was, "There's nothing we have that's any better than what the patient can get at his local hospital. A patient should seek out experimental treatment at distant centers only if very strongly motivated to do so."

Dr. Zubrod suggests that patients who choose a community hospital find one that has a well-organized oncology program, one with a tumor board and an organized oncology service.

In those diseases where cure is possible only with difficult therapies requiring more than one treatment modality, patients should select the nearest comprehensive cancer center for its advanced medical facilities, the convenience and greater usefulness of having all members of the medical team assembled under one roof, and with the entire program generally coordinated by a medical oncologist.

To help find the best center for these diseases, certain questions should be asked. Sidney Farber's Dr. Emil Frei III says that if he had lung cancer he would ask the following questions of any cancer center he was considering: "Do you have a multidisciplinary program? Do you have a lung cancer clinic? Do you have a research program?"

De Vita cautions again that experience is the most important factor in a cancer center as well as in an individual physician. He says, "Take our cancer center here, at the NIH. We see certain kinds of cancers, by choice. We don't see every kind. So coming here for colon cancer is not the best thing in the world, because we don't see a lot of it. You'd be better off going to a different cancer center.

"Normally, when you say patients should go to a center, the implication is that every center has expertise in every tumor. And that's not true. It depends a lot on which doctor has settled there and what kind of patients they've attracted. Patients should go to experts—people who see the disease a lot. They don't have to be at a

flashy cancer center. It can be a very nice clinic; it can be a private hospital. But it ought to be an experienced person."

Many patients who entered the treatment system through their general practitioner or through a surgeon and were being treated with multiple modalities felt that there was no physician in charge of the entire program: they would see their surgeon, a chemotherapist, a radiotherapist. If they had questions about side effects, mysterious symptoms, or the interrelationship of the therapies, they would sometimes be shunted from one specialist to another without getting satisfactory answers. Most of the oncologists I spoke to agreed that this was a problem. As Vincent De Vita expressed it, "I think it's one of those unfortunate stages in cancer treatment at this point in time where we have three major kinds of treatment with a doctor attached to each kind. The one that is usually trained in general medicine and could supply the necessary general medical background and the general information and apply one of the treatments is the medical oncologist, who is frequently a good choice."

But De Vita and several other doctors pointed out that the medical oncologist was not invariably the best. "I don't think it's always the same kind of doctor. Sometimes diseases are managed entirely by radiotherapists with chemotherapists adding something, and the radiotherapist can be the coordinator of the care as well." If patients find themselves with the feeling that there is no one gluing all the pieces of their program together but don't want to change physicians, they might consider having a consultation with a medical oncologist to answer their most pressing questions. After this a patient may or may not elect to continue consulting the oncologist, but even one such meeting would probably reduce stress a great deal.

One of the keys to successful cancer treatment is the patient's awareness and education.

Patients are often intimidated by physicians, and many fear to confront doctors—orthodox or alternative—with probing questions that might seem to indicate a lack of faith or decisions that may meet with disapproval. But patients should remember that doctors work for them—their bodies, their lives. As Bob Gilley said to a physician who seemed disgruntled by Bob's need to participate, "Remember, *I'm* the one who's paying the bills." When I commented to Dr. De Vita that everything he was saying encouraged patient involvement

in therapy and that this seemed to be a new attitude for doctors, he responded, "I never thought it was a new attitude. Certainly I'm not going to have anybody do anything to *me* unless I get involved in it. I don't see why that should be different for anybody else."

UNPROVEN METHODS

Patients who are not helped by traditional therapies or who for some other reason decide to try alternative treatments—either instead of or in conjunction with traditional therapies—will find themselves in an unusual position. Those who mention alternative methods to traditional physicians, or orthodox therapies to unconventional doctors, can expect to hear certain responses from each side. Some are reasonable; some are not. If a patient learns about his illness and treatment options, he can confidently present to his physician a well-reasoned, documented case supporting the treatment he feels gives him the best chance. He can then judge whether the doctor's reaction includes valuable and reasonable objections to a proposed course of action or if it is one of the classic closed-minded litanies.

Because the nutritional therapies have been so widely publicized, many cancer patients ask their oncologists for nutritional advice. Oncologists' usual answer echoes that received by a woman whose husband was being treated at a leading cancer center. "They told him to eat whatever he wants, that there's no proof that diet has any effect on cancer."

The statement, "There's no proof that diet has any effect on cancer" is at the heart of the strongest and most significant traditional argument against alternative therapies: that they are unproven. This means that they have not been subjected to controlled experiments—the classic scientific technique for demonstrating the truth of any hypothesis. In medicine a controlled clinical trial means that two groups of patients with the same disease at the same stage are treated. One group receives either no therapy, a treatment whose effects are known, or an inert substance known as a placebo. These patients are known as the controls. The other group, called the experimental or treated group, receives the method under study. (In order to eliminate any possibility of experimenter bias, in some trials neither the researchers nor the patients know which group is getting which treatment. These are known as double-blind studies.)

At the end of a prescribed time period results in the two groups are compared. If the treated group does better than the control group, researchers conclude that the treatment under study is responsible for their improvement.

Spokespeople for nontoxic therapies point out that unproven does not mean disproven, although because of the connotations of the American Cancer Society's well-known file of unproven methods, it has come to be interpreted as disproven. This file has the effect of a blacklist for any therapy or therapist included. When the American Cancer Society says "unproven," orthodox physicians and cancer research institutions read "quackery." Doors to research funding are shut, even to such a respected figure as two-time Nobel prize winner Linus Pauling, whose work with vitamin C appeared as an unproven method and whose vitamin C and cancer research projects were rejected by the ACS and the National Cancer Institute five times before he finally was awarded a grant.

I expected the Unproven Methods file to contain reprints of well-documented controlled studies published in respected scientific journals, proving that the alternatives had no effect, or reports from orthodox therapists who had tried an alternative approach and found it to be ineffective. These were the standards the ACS seems to expect the alternatives to meet. Instead I found reasoning as unscientific as that which the ACS accused the alternatives of using. Each report—a separate one for each method—is available on request from the society as a printed statement averaging two to five pages in length. According to one society spokesperson, some of the reports are out of date, while others, although listed in the society's pamphlet, *Unproven Methods of Cancer Management*, are no longer available. Each contains a truncated description of the method, sometimes a brief biography of its originator, a list of the therapy's proponents, and lengthy accounts of legal actions taken against the therapist.

For most of the unproven methods no investigations had been done. Those reports that closed with a section headed "Investigation" did not detail scientific studies disproving the therapies, but frequently contained quotes or paraphrases taken from unpublished letters written by one physician to another. For example, from the file on the Gerson therapy: "In 1947 the National Cancer Institute reviewed 10 cases selected by Dr. Gerson. The Institute concluded

that the report was not convincing." This information came from a letter written in 1951 by Isabel M. Wason, M.D., Committee on Cancer Diagnosis and Therapy, to Dr. R. S. Westphal, chairman, Public Health Committee, Sonoma (California) County Medical Society. No further data from Gerson's report or the NCI review were included.

However if the alternatives have not been disproven by traditional cancer researchers, it is true that with very few exceptions these methods have not been subjected to scientific scrutiny by their practitioners. Often this is because the originators of these therapies are not researchers but clinicians, whose primary task is to heal their patients. Orthodox as well as alternative physicians see this as their role and on this count both sides sometimes face the same charges of unscientific behavior. For example, Dr. Lucien Israel, a traditional physician who pioneered aggressive combination chemotherapy in France, tells how researchers initially scorned his methods because he had no control groups. However Israel believes that historical control groups provide enough of a comparison to be certain that his treatments are responsible for longer survival times. If several patients live longer than expected after taking a particular combination of drugs, Israel feels it would be immoral to withhold this protocol from other patients with the same type of cancer.

ORTHODOX DEFENSES AGAINST ANECDOTAL EVIDENCE

Because scientific studies are virtually nonexistent, representatives of traditional cancer medicine argue that potentially curable cancer patients who reject orthodox methods to try alternatives may be dooming themselves by ignoring the proven treatments of surgery, radiation, and chemotherapy and their possible benefits, in favor of methods whose only evidence is in isolated case histories, i.e., anecdotal.

Practitioners of alternative approaches respond that they rarely see patients with early cancers who might be treated successfully with standard therapies, but nearly always those whose cancers have not been helped by traditional medicine. This fact makes their survivors even more impressive.

Oncologists, however, have a range of defenses against anecdo-

tal stories. There are a few reactions that I encountered with such frequency and consistency that they became almost a litany. Each one is another way of saying that because the alternatives are unproven, the recoveries they claim are not necessarily due to the therapies and can be explained away. These are the same responses the cancer patient is likely to encounter, and he should know that in my experience these arguments were much less valid: the alternative case histories are not so easy to dismiss.

Many conventional physicians discount patients "cured" by alternative therapies by saying that they never had cancer to begin with. This was repeated to me so frequently and with such certainty that I began to wonder how difficult it actually is to diagnose cancer. I asked Dr. Joseph H. Burchenal, director of Clinical Investigation at Memorial Hospital for Cancer and Allied Diseases, if cancer is so frequently misdiagnosed. His answer was immediate. "Oh, yes, it can be. It depends—" Then he quickly broke off and added, "I mean, it shouldn't be . . ." He assured me that if biopsy diagnosis (the only proof of malignancy acceptable to the medical establishment) was made at a good institution, the chances of accurate diagnosis were very high.

Surgeons agreed there was little chance of misdiagnosis. Dr. Ted Miller told me that any surgeon experienced in treating cancer should have no difficulty recognizing it. Another surgeon, quoted by NCI's Dr. Bernard Fox in an unpublished paper, stressing ease of diagnosis in certain cases, said there was no doubt in his mind when he found a hard lump on the skin surrounded by swollen, hard lymph nodes. He asks, "I mean, what else can it be?" When I observed surgery at Memorial Hospital, while the surgeon, Dr. David Kinne, was waiting for the pathology report, he said that he didn't think the lump he had removed was malignant. He explained, "A malignancy has a grainy feel, like cutting into a pear. This didn't have that." The lump turned out to be benign, confirming Dr. Kinne's "feel."

Noted physician and author Gustav Eckstein, in *The Body Has a Head*, writes, "Pathologists may in a particular tumor be uncertain whether this one is malignant or benign, killing or kind, but that is rare." One pathologist detailed the problems of making accurate diagnoses, and although Dr. Burchenal's initial, uncensored, "Oh, yes, it can be," confirmed that mistakes do happen, misdiag-

noses are possible in very early cancers only, where cells viewed under a microscope provide the only clue. Nearly all of the patients and survivors I met—and most who go to alternative therapists—had metastasized cancer. All, even the few I met with early cancers, had original biopsies done by reliable orthodox institutions. It seemed that the cry of misdiagnosis was, at best, wildly exaggerated. At worst it was more applicable to orthodox healings than to the alternatives since traditional cancer specialists see more early cancers, where misdiagnosis is more frequent.

If the patient had any standard therapy, his recovery was credited to this treatment. In my experience this could have been true in some cases, but was unlikely. It was very difficult to find patients who had had *no* orthodox treatment. Contrary to the warnings of the American Cancer Society, most of the patients I met *had* turned to alternatives only as a last resort. However, even those patients who had had some orthodox therapy were unlikely to have been healed by it. Either the patient had abandoned it several months before the alternative therapy was begun, or had experienced cancer growth throughout orthodox treatment and coincidental remission after the alternative was started. In those cases where the regression could have resulted from traditional therapy, either the individual patient's prognosis was poor or that type of cancer showed a very low percentage of remissions with traditional therapy, making survival as a result of standard medical treatments statistically unlikely.

Oncologists warned that a patient "cured" by an alternative treatment still had his cancer and was taking his life in his hands. If so the disease had certainly become far more benign, as most of the survivors I met were enjoying healthy and comfortable remissions, frequently with no clinical signs of cancer, most of them beyond the five-year mark.

Oncologists frequently dismiss healings that seem unlikely by claiming the patient enjoyed the phenomenon of spontaneous regression, a happy circumstance in which cancer simply disappears with no medical intervention. While this has been known to happen with mainstream as well as unaccepted therapies, because of its rarity this seems the most unsupportable argument of all. The most comprehensive study of spontaneous regression of advanced cancers was made by Tilden C. Everson, clinical professor of surgery, and Warren H. Cole, head of the department of surgery at the University

of Illinois College of Medicine, documented in their book *Spontaneous Regression of Cancer*. To see if spontaneous regression could account for unorthodox cures, they searched medical literature from 1900 to 1965. During the years they studied, the number of verified spontaneous regressions was an astonishingly small 176. Some estimates have put the incidence of spontaneous regressions at about one in 100,000, but there is no scientific verification for that figure.

Essentially this means that the probability of a clinician meeting with several spontaneous regressions in the course of his career is remote. As Dr. Solomon Garb, a professor of pharmacology and associate professor of community health and medical practice at the University of Missouri School of Medicine computes it in *Cure for Cancer, a National Goal*, "There is less than one chance in 1,000 that any single physician will encounter in his lifetime one true case of spontaneous cure or long-term regression of advanced cancer. The chances against his encountering two would be less than one in a million. The chances against encountering three would be less than one in a billion. The chances of a physician encountering ten such cases are much too small to have any meaning."

To call these regressions spontaneous, of course, is not an accurate description of what happens. Such regressions never are spontaneous, but are caused by undiscovered internal factors, now believed to be activation of the immune system by some unknown trigger. It would be valuable to investigate various blood, hormone, and immune factors in patients who have had spontaneous regressions, looking for the elements present in such cures but, to date, no such research has been undertaken.

Rarely, orthodox therapists would acknowledge that an unaccepted treatment had a good effect in a given case and then dismiss it as placebo effect, apparently unaware that they were substituting one mystery for another.

As we have seen, placebos—pills with no pharmacological value—have achieved astonishing results in scientific tests, ranging from relief of pain to increased life span in a certain percentage of subjects. Generally about 20 percent of patients respond, but in one study there was 77 percent response.

There is evidence that placebo effect occurs most often when patients are under great stress, which certainly describes cancer patients and is even more true of those who must turn from the

solidity of traditional medicine to the less proven world of alternative therapies. It is certainly possible that placebo effect was responsible for some of the effects of the alternatives, particularly transitory feelings of well-being and relief of pain.

But no placebo has ever been known to heal a cancer. If alternative practitioners have gotten such extraordinary therapeutic results with placebo, it would be more valuable to find out how to use it to enhance the effects of traditional therapies than to dismiss it so cavalierly. A small handful of medical researchers and physicians are beginning to recognize placebo effect as a significant area to study, investigating such questions as which kinds of patients are likely to respond best to placebos; in what settings are placebos best prescribed or administered; how can the physician use placebos without losing the trust of a patient; what are the biochemical mechanisms that connect belief to physical change?

Hand in hand with rejection of anecdotal evidence are areas of complete ignorance about the alternative therapies. When I mentioned the nutritional therapies, for example, physicians would tell me repeatedly that "starvation diets" had no effect on existing cancers, when, as we have seen, with the possible exception of the Wigmore program, none of the nutritional approaches in any way resembles a starvation diet. One well-known physician dismissed the Gerson diet as horse dung. Long-time Laetrile opponent Dr. Joseph Ross insisted that nutritionist Adelle Davis was a well-known Laetrile supporter who died of cancer. Adelle Davis certainly advocated dietary changes for Americans, and she did die of cancer, but she was never a proponent of Laetrile. The high-protein, high-fat diets she recommended were diametrically opposed to those used by nutritional therapists for cancer.

THE ALTERNATIVE BIAS

However, if cancer patients don't find unbiased and informed judgments on the orthodox side, neither do they find them on the alternative side. Reliable cure rates for alternative therapies are nonexistent and spokespeople as well as therapists are often guilty of exaggeration. The son of one cancer patient, exploring the alternatives for his mother, said, "They're all shouting, 'Buy me, buy me!'" There is no doubt that there are quacks and snake oil salesmen

within the alternative movement. Usually the originators of therapies are well intentioned, dedicated, and principled, but sometimes they attract less scrupulous followers.

Although most alternative physicians recognize and applaud the gains won by surgery, radiation, and chemotherapy, the organizations that disseminate information about alternative treatments are loudly hostile to traditional cancer medicine. Just as the American Cancer Society dismisses the alternatives out of hand as quackery, many spokespeople for the alternatives reject *all* of the mainstream methods, including, for instance, chemotherapy for leukemia, which is the only treatment that now gives leukemia patients a chance. They sometimes dismiss official statistics altogether, claiming that the survival rate is still one in three, or even that orthodox medicine has *no* survivors. The director of one alternative organization once said to me with a straight face, "You know, I'm awfully suspicious of those cures that orthodox medicine claims. I don't believe those patients ever had cancer in the first place."

Such strongly polarized opinion is an inevitable result of insufficient facts. There is no reliable cancer cure because many basic biochemical questions about cancer have remained unanswered. In the 1982 edition of the text *Cancer Medicine* editors James F. Holland and Emil Frei III point out, "Neoplasia, despite decades of study, has remained one of the most baffling disease complexes confronting medical science . . . Normal cellular development, differentiation, and control of gene function are not well enough appreciated at the molecular level to allow a precise understanding of the mechanism by which a cancer cell departs from the pattern of normal behavior."

Since our knowledge of cancer is so incomplete, it is difficult to understand how the medical establishment could not investigate any approach that might enlighten or any treatment that has possible value. Many cancer patients have said to me, "I can't believe that my doctor would not try any treatment that could help me." Alternative supporters suggest a range of reasons for this reluctance, some convincing, others paranoid.

Many alternative proponents blame simple greed for suppression of nontoxic and nutritional research. Some go so far as to say that orthodox cancer researchers and physicians want to continue to *treat* cancer, but don't want to find a cure because it would elimi-

nate their livelihood. While this is a fairly outrageous accusation, there is no doubt that cancer therapy is a big business, grossing some twenty billion dollars a year for surgeons, chemotherapyists, radiotherapists, hospitals, manufacturers of radiotherapeutic machines, and drug companies. Corporate officers of drug companies and manufacturers of radiotherapeutic equipment are frequently on the boards of directors of research hospitals, making it natural that research into radiation and drugs take precedence over research into less profitable or unpatentable natural substances.

Other financial factors are involved as well. Basic research is enormously expensive and funding institutions tend to grant money only to large, established facilities, which tend to follow traditional approaches to therapy.

Institutions also naturally tend to be dubious about unaffiliated researchers. One British cancer specialist, discussing his rejection of the work of Dr. Josef Issels, summed up this attitude, saying, "We didn't stop and consider whether he might just be right. As one consultant said to me: 'How can Issels be right, tucked away in the Bavarian mountains?' One of the problems with medicine today is that unless the report comes from one of the big cancer institutes, it is brushed aside. And there is a sort of unwritten law which says, 'The more you spend, and tell the world you have spent, the more impressive your claims are bound to be.' "

Perhaps the most extreme alternative argument follows these lines: Cancer research grants come from large foundations, which often depend on the petrochemical business for much of their funding. These foundations are understandably eager to pursue lines of research that encourage the use of petrochemicals, as does much of cancer chemotherapy. Researchers are reluctant to venture into other, competitive areas for fear of losing this money.

THE REAL ROOTS OF MEDICINE'S RELUCTANCE

Although there is undoubtedly some truth in charges of venality, there are other reasons that are far less sinister and far more human. Physicians invest a minimum of six arduous years in learning that the only way to cure a patient is by administering aggressive drugs or invasive surgery that eliminate symptoms. Doctors naturally will resist those who reject such methods as destructive and

who suggest that healing can take place in ways not taught in medical school.

Part of a physician's training and early experience is intended to keep him oriented to the point of view he has learned as a medical student. When a young doctor begins private practice, professional societies discourage him from using any methods not accepted by his peers lest he hurt his patients and his career. He is bombarded by advice that encourages him to follow a certain line of reasoning and certain medical protocols. Even if a doctor is interested in other approaches, few will buck these pressures to try something unapproved. Dr. Norman Saliba, the outspoken metabolic physician from Tennessee, told me, "I think doctors are the most conditioned group in the world. My fellow physicians have given me the hardest time. I tell them that they're like a bunch of damn mules with blinders on, so conditioned to orthodox medicine. I think it's a shame that doctors have stopped thinking for themselves."

Because the basic aim of medicine is to preserve life, its practitioners, with good reason, regard it as a high and sanctified calling. Many physicians, however, particularly those who have risen to positions of power in medical associations, take this view one step further, seeing themselves as high priests who perpetuate an unchangeable dogma. For them medicine is a religion, their beliefs unshakable. Those who depart from traditional medical viewpoints are considered subversive and dangerous, and orthodox scientists and physicians have never hesitated to use any means necessary to discredit heretics.

These attitudes did not originate with unorthodox cancer therapies. Throughout the history of medicine nearly every revolutionary discovery was greeted with ridicule and derision. William Harvey, who discovered the circulation of blood, was scorned for his work and it was only after his death that he was proved correct. In the early nineteenth century the concept of anesthesia caused great gales of laughter among medical students until the first astounding demonstrations of its effects in 1846 by William T. G. Morton.

THE PATIENT'S PROBLEM

Because of these attitudes cancer patients who venture outside the world of traditional cancer medicine usually find themselves with-

out the routine protective cushions they have taken for granted. Patients who select alternatives are rarely covered by medical insurance: I met more than one who like lung cancer patient Bob de Bragga had to abandon what seemed to be an effective nutritional therapy because he could no longer afford the required supplements. Nor do patients have available to them the advanced technological equipment sometimes necessary in medical crises. When patients seek answers to questions, hard scientific data are meager.

Worse, experienced physicians who treat with these methods are scarce. State and county medical boards can make it illegal for physicians to prescribe any treatment for cancer other than the proven medical therapies. In California, for example, despite Judge Bohannon's ruling, which allows physicians to prescribe Laetrile for terminally ill cancer patients, a 1980 statute makes it a criminal offense for any physician to use Laetrile other than in one of California's five teaching hospitals. According to the California Medical Association it has never been used.

Other state and county medical boards across the country frequently pressure physicians who treat cancer with unconventional methods by threatening them with loss of license—or prison. California's Dr. John Richardson, a pioneer in Laetrile therapy, lost his license to practice medicine in California after hearings that went on for four years. In 1981 another California physician, Dr. James Privitera, was jailed for several months for dispensing Laetrile. In 1982 New York's Donald Cole's license was revoked.

Even if medical boards can't always get convictions, they can keep these physicians in court, on the defensive, and away from their practices. In New York the State Board for Professional Medical Conduct subpoenaed the medical records of all the cancer patients Michael Schachter had treated with Laetrile. Schachter was able to stave off the subpoena, but during the time he spent in court he could not practice. One Connecticut physician nearly lost his license because he cooperated with Lawrence Burton. Once outspoken, this doctor now avoids interviews so he can continue to supply patients with Burton's treatment without harassment. Several of the alternative physicians I interviewed asked me not to use their names for fear of medical reprisals. A physician from one American hospital that uses Laetrile told me that the hospital likes to keep a low profile to prevent intervention.

The attitudes of the medical establishment have such strong

legal teeth because of modern medicine's political influence. The AMA is one of the most powerful lobbies in Washington, and the policies and practices of big medicine have the protection and support of both state and federal governments.

The practical effect of all this is to mandate the type of treatment cancer patients can have. Because of this, one of the rallying cries of the alternative movement is freedom of choice. In appealing his conviction for breaking the California statute that forbids the use of Laetrile for any purpose, Dr. James Privitera argued that the law was unconstitutional. The appeals judge agreed with him, stating that this statute ". . . denies the patient the exercise of one of his most fundamental rights. He, instead, has the choice of 'state sanctioned' treatment by the doctor or no treatment from the doctor at all. Again if this be the legislative purpose, it misses the mark. Diminishing fraudulent cures, punishing quackery in cancer treatment, is a laudible objective. The means chosen by the Legislature is bureaucratically predetermined treatment or none, injected into a constitutionally protected area of privacy. This fundamental right of privacy, this right to be left alone, is 'older than our political systems.' It cannot be swept away, denied by the processes of compelled acceptance of 'state sanctioned alternatives.'" This judge's ruling was overturned, leading to Privitera's 1981 imprisonment.

COOPERATION

In all of this controversy and mutual suspicion it is the cancer patient who suffers. Along with the acrimony between the orthodox and unorthodox approaches, sniping goes on within each camp as well: many alternative therapists scorn all their rivals within the alternative field as charlatans; surgeons, radiotherapists, and chemotherapyists often jealously press for the greater glory of their own specialties; the pages of medical journals sometimes bristle with disputes about the validity of studies.

It is time that these narrow, destructive attitudes change so that cancer patients can benefit from every modality. There are signs that such a change is beginning. In the *New England Journal of Medicine* of October 23, 1980, Vincent De Vita admitted that potentially valuable research ideas were rejected because of current funding practices. "The entire system tends, if anything, to exclude peo-

ple on the fringe who have ideas that are radical departures and we ought to pay a lot more attention to them." In the January 25, 1980, edition of the highly traditional *Journal of the American Medical Association*, in an editorial that began by questioning one alternative treatment, William J. Regelson, M.D., of the Medical College of Virginia commented, "There is no question that inappropriate judgments have resulted in injury to good observations . . . All of us in the cancer field must keep an open mind toward innovative ideas and the possibility that a person working outside the accepted institutional structures can come up with an interesting approach." And cancer surgeon Robert C. Eyerly, chairman of the American Cancer Society's committee on Unproven Methods of Cancer Management, said of the unproven therapies, "We have to separate the wheat from the chaff," the first ACS admission that there might be *any* material of value in unorthodox methods. On the alternative side there is a growing trend among physicians and researchers to accept low-dose chemotherapy and radiation.

The most concrete expression of a new spirit of cooperation was Cancer Dialogue '80, a four-day symposium organized by New York state M.D. Arif Rechtschaffen. The aim of the conference was to bring together representatives of traditional and alternative cancer medicine and it succeeded to an extent, although it was not without controversy, of course. Less than a month before it was scheduled to begin, the six major orthodox participants, including American Cancer Society vice-president Frank Rauscher and director of Boston's Sidney Farber Cancer Institute, Dr. Emil Frei III, dropped out. Despite previous acceptance, most pleaded prior commitments, but the conference sponsors—which included the American Holistic Medical Association and the American College of Preventive Medicine—believed the real reason was pressure from medical societies.

However despite the withdrawals the conference ran smoothly. The audience of 1,000, which included 200 physicians and 250 nurses, was drawn by such eminent speakers as Nobelists Linus Pauling and Albert Szent-Gyorgyi, M.D., and by internationally known physicians and researchers such as Hans Selye and Denis Burkitt. The audience came to hear about the nutritional theory underlying William Donald Kelley's treatment of Steve McQueen's lung cancer; to learn details of Lawrence Burton's immune therapy; to become familiar with the psychological program of the Simontons.

On the establishment side they listened to surgeon George Crile discuss new treatment options for breast cancer patients; watched the dramatic slides of Dr. Harry LeVeen as he described his pioneering work in radio-frequency heat therapy; heard Dr. George Blackburn detail orthodox nutritional support of the cancer patient.

Physicians' response was overwhelmingly positive. "I thought the conference was a good idea. I learned a lot about how these 'unorthodox' therapies dovetail," said Philadelphia medical oncologist Bob Sklaroff. Said Florida gastroenterologist Joseph Spano, "I think the conference was a landmark one, the opening of a new era in medicine, the beginning of a necessary communication between the healing arts." Several physicians said they planned to show videotapes of the symposium to local oncologists.

Unfortunately for cancer patients there are very few physicians who understand the benefits and drawbacks of both traditional and alternative, and who span both worlds comfortably. Michael Schachter is one who leans toward the alternatives but does not feel hostility toward mainstream therapies. He seeks, instead, for all his patients, not just the small percent who have cancer, to provide a balance between the two. Schachter says, "We're very pragmatic here. We do whatever works." In his Nyack, New York, office new cancer patients first attend a two-hour orientation session that details the nontoxic philosophy. "Patients have a much clearer idea of what's going on. They feel more comfortable because they know what they can and can't expect."

While most cancer patients who see Schachter have come as a final choice, some are undergoing standard therapies. Those who are already receiving therapies that seem effective are encouraged to continue with those programs, but are taught how diet, detoxification, and positive thoughts and emotions can strengthen their immune systems.

"We try very hard," says Schachter, "not to overpromise, but to create an atmosphere of hope."

Cancer patients can be potent forces to encourage and accelerate this change of attitude. Fortified with information, they need not be cowed by opinionated doctors: patients know that choice of any one modality need not mean elimination of others. They know that it is possible to attack the cancer directly and to build the body at the same time. By not allowing themselves to be manipulated into

taking sides, patients can stay fully aware of their own feelings about the many treatment possibilities they discover. Only then can they select the modalities they believe in.

The importance of belief cannot be overemphasized. Cancer patients often ask me which therapy I would choose, but what I would choose is irrelevant. I would select those treatments that make the most sense to me. As patients wind their way through the confusing welter of claims and counterclaims, theories and contradictory hypotheses, they can be best guided by their own gut feeling of what is right for them. To choose from among the many treatments patients must weigh the facts, statistics, testimonials, personalities, side effects, philosophies, and theories and decide what therapy or combination of therapies fits *their* belief system.

10.

HOW THEY SURVIVED

"My whole thing as far as survival was concerned was total will. I became healthy because I wanted to live."

These were Barbra Walz's first words to me. They echo those of every cancer survivor I met. Whether they underwent surgery, radiation, chemotherapy, or experimental immune treatments; whether they detoxified and radically altered their diets, took Laetrile, Hoxsey, enzymes, or carloads of vitamin pills; whether they meditated, visualized, or underwent psychotherapy, cancer survivors shared certain attitudes that seemed to me as important to their survival as the methods they selected.

They said, like Morris Abram, "I resolved that in my case the disease was not going to be fatal," or like Lynn Ringer, "The only number I could hold on to was that little bitty one that said, 'Some people make it.'" When I asked Christine Blythe Myers, who was diagnosed as having acute lymphocytic leukemia in 1962, when she was a little girl, about the importance of the will to live, she said, "Oh, I think it's everything." In 1962 acute lymphocytic leukemia in children meant sure death, but Christine is a survivor.

As I spoke to cancer survivors during the past six years, I soon realized that they were telling me the same things again and again about the ways they faced and dealt with their disease. I began to see that all of their statements added up to a definition of the will

to live. When survivors spoke about its various aspects, they spoke intensely. For them it was neither a cliché nor an abstraction but a deeply felt drive that grew from their feelings about life and about their chances for recovery. It expressed itself not only in words, but in actions, not in amorphous desire, but in concrete positive responses to negative prognoses, slow progress, pain, depression, recurrences, difficult therapies, uncooperative physicians, and discouragement.

These attitudes and behaviors were so consistent that they added up to a profile of the cancer survivor. It seemed to me that isolating these characteristics could give invaluable information to cancer patients. Survivors could serve as models, their words and actions guides to help patients develop attitudes that would increase their chances for recovery. A strong will to live did not guarantee survival, but it played a major role for those patients who did get better and was notably absent in nearly all who did not.

HOPE AND A POSITIVE ATTITUDE

Survival began with a resolve that recovery was possible. No matter how negative the prognosis, these patients always believed that they would get better. This was unusual. As Sylvia Zuckerman said to me, "The main thing is that most people, the minute they hear the word *cancer*, program themselves to die." These survivors, however, did not expect cancer to mean death. At the heart of every story was hope and belief—despite their doctors' or anyone else's opinion—that survival was possible.

Rather than submit to negativity and fear, these recovered patients automatically focused on the positive. For example, Barbra Walz told me that losing her leg never affected her self-image. When I asked what she would have done if her cancer had been on her face, she said, "Plastic surgery," without missing a beat. "If something goes wrong, it can be fixed. Fix it. That's the way I've always been."

Patients faced with a devastating diagnosis and prognosis must listen to their inner voice. Does it say the equivalent of "Fix it" or does it say, "Nothing can be done"? Does this response come from the patient's personal experience with cancer—watching a friend or close relative die? From the attitude of friends or of the media? From subtle—or not so subtle—cues given by the physician?

A patient may feel immediate terror that death will now be

swift. Such a reaction is not unnatural. Fear is, after all, an appropriate response—many survivors felt it initially and at moments throughout their treatment. Fear has its positive aspects, too: it can spur patients to action. It is destructive only when it is sustained, crowding out hope and leading to depression and paralysis.

The point is that patients need not be at the mercy of fear. They must remember at all costs that survival depends on not being defeatist and must learn to overcome periods of panic. Patients can choose a different attitude. Instead of creating negative pictures of the future by concentrating on those who died, they can focus on those remarkable exceptions who prove that no terminal diagnosis is immutable. They can picture the actions they must take and attitudes they must have in order to become one of those exceptions. They can ask themselves, "What would I do first if I thought there was the least chance of becoming a survivor?" Dr. John Durant, President of the Fox Chase/University of Pennsylvania Cancer Center advises his patients, particularly those with poor prognoses, to be positive. "I tell them they might as well decide they're going to do as well as anybody ever did, and that the best that anybody ever did was whatever it is—if it's 10 percent survival, then there is a 10 percent survival rate. They may as well decide they're going to be one of those people and deal with not being one of those people when it becomes clear they are not."

Patients who find it difficult to make such changes in attitude might want to seek psychological counseling to help them cope. Most oncologists can supply the names of agencies or individuals; the psychiatric and social work departments of nearly all cancer centers offer supportive therapy as well.

It is vital for patients to use whatever means necessary to develop a positive attitude. Patients who believe they might recover can take action, can reject a terminal prognosis by seeking out another physician, by traveling to the Bahamas, or Mexico, or Germany to find a therapy they feel will help them. Even patients who fear (or are told flatly) that nothing more can be done—as long as they have enough hope to keep searching and battling—can survive. In this way their certainty of recovery becomes a self-fulfilling prophecy.

Physicians agree that hope is critical. Repeatedly I heard variations on the words of one of California's metabolic physicians, Doug-

las Brodie, who said, "It's been my observation that the mental states are extremely important in how these people do and whether they get better or not. If they're depressed and they're convinced they're going to die, they'll die. If they have hope and they believe in what they're doing, they improve, and many of them have far outlived the prognosis given to them by a surgeon or a radiation therapist." The late Dr. Fred Conrad, who was vice-president for patient affairs at Houston's M. D. Anderson, said, "I think a negative attitude can kill you in a hurry. I've seen patients where I swear, I've done everything as well as I've done with the prior 100 patients, and they just did not do well and they willed themselves to die. I think a negative attitude can make you totally unresponsive and kill you in a hurry."

The attitude of the American Cancer Society came as a surprise. When I wrote to Dr. Wayne Rundles, then president, requesting names of cancer survivors who would be willing to share their stories with me, he refused my request. He wrote, "I think the public does not need any more inspirational literature." Based on what I observed about the importance of hope, I could not disagree with Dr. Rundles more. More inspirational literature is *exactly* what the public, and certainly the cancer patient, need.

Similarly, the American Cancer Society frequently accuses alternative therapists of giving cancer patients false hope, but what does that mean? Genuine hope is always a life-enhancing emotion. Hope, while it lives in anyone, can only be false if the person doesn't *really* believe. Shattered hope may be painful but hopelessness is always fatal.

ANGER AND FIGHT

When I asked physicians what elements they found in the will to live, they often described it in the same way as Dr. Wolfgang Scheef at the Janker Clinic in Bonn, who told me, "The patient must be willing to *fight*."

Fight and anger are important tools in the battle against cancer. At Massachusetts General Hospital psychiatric researchers Avery D. Weisman, M.D., and J. William Worden, Ph.D., have found that angry patients survive longer than patients who are resigned to die. Psychologist Leonard Derogatis and oncologist Martin Abel-

off of the Johns Hopkins Medical School found that of thirty-five women with breast cancer those who expressed anger at their disease and their physician survived longer than the others, even though the angry women generally had poorer prognoses than the others.

Survivors, too, told me about anger and desire to fight. Hy Radin said to me, "I always was a fighter. Even in the hospital, after surgery on my spine, I hobbled along on crutches." When I asked Mary Lee Rork what kept her going when her health continued to deteriorate, she told me, "I'm very stubborn. And I wanted to spite all those doctors who told me I was going to die."

Anger may not be an easy emotion for cancer patients to admit. We have seen the many studies depicting cancer patients as unable to express anger easily, a lifetime habit that may be difficult to change without guidance. Psychotherapy may be appropriate to help such patients feel and express their anger rather than to keep it bottled up.

Most psychotherapists agree that when anger is repressed, it turns into depression. It may seem natural for cancer patients to be depressed but not every cancer patient feels that way. Survivors may go through periods of depression during their disease, but they don't let such feelings last. There are many techniques that can reverse depression in addition to traditional psychotherapy.

Perhaps the most accessible technique, enormously successful in treating badly depressed patients, is called cognitive therapy. This approach was developed by Dr. Aaron T. Beck at the University of Pennsylvania School of Medicine and popularized by his pupil, Dr. David D. Burns, in his best-selling book *Feeling Good: The New Mood Therapy*. Dr. Beck believes that psychotherapists don't have to delve into a person's early childhood in order to relieve depression. The roots of depression are not necessarily buried in the unconscious but can be the result of negative thinking—conscious thoughts that can be controlled.

Burns and Beck believe it is negative thoughts that come first; depressed feelings follow. In his book Burns details how depressed people can train themselves to become aware of their unrealistically negative thoughts and to change them to more positive ones, with the surprising effect of actually lifting the depression. Once this happens, patients can feel their anger and use it to battle their disease.

RESPONSIBILITY AND INVOLVEMENT

One way patients battled was to take responsibility for healing in their own hands. They became involved in their treatments by asking questions, reading books, teaching themselves about their cancer. Sylvia Zuckerman told me that after she learned she had advanced cancer she felt, "Cancer was the enemy that I was fighting. I really had to see the face of my enemy, to *know* my enemy before I could defeat it. I brought anatomy books to the doctor and asked him to show me in the drawings where the omentum was, and so on. I always had a list of questions. Recently a cancer patient called me for help and advice, and I said to her, 'What kind of cancer do you have?' and she said, 'I don't know and I don't want to get involved in that. That's the doctor's department.' And I said to her, 'Stop right there. You've got to get involved in your own healing. You've got to fight to get well. If you don't know what you've got, how will you fight it?'"

Morris Abram told me, "I believe that it's important to have a patient understand what's going on and to monitor through his or her own mind the balancing risks and the contending therapies." Because he was receiving both chemotherapy, which destroys the immune system, and immunotherapy, which builds it up, Abram requested at one point during his treatment that all his doctors confer and decide whether he could discontinue his chemotherapy. As a result his physicians did meet and decided that Abram needed no more of the harsh drugs he had been taking.

Bernice Wallin pointed out, "One thing I've learned from my experiences is how ridiculous it is for people to accept their own death. They go to a doctor for help, get wheeled into a hospital, and never even bother to ask questions. They just accept what the doctors say and then they die."

"They never try to find out about their disease themselves. They leave it all in the hands of the doctor and, believe me, he doesn't know it all."

Patients can begin their education in their doctor's office with their list of questions. If the doctor can't take the time to explain, patients should ask for sources of information written in lay language. Most doctors will be happy to do this; some even welcome and encourage questions.

In addition, cancer patients should read everything they can

find about their disease, visiting medical libraries and reading books and medical journals. Such a medical self-education does not require intellectual superiority. Most lay people are uncomfortable with medical terminology: the multisyllabic words seem daunting. But a good medical dictionary like *Taber's Cyclopedic Medical Dictionary* can be a guide, and the concepts underlying medical terms are usually simple. The first medical book or journal article may be heavy going, but terms quickly become familiar, and the experience may not be as difficult as expected: most journal articles begin with short summaries that are very helpful and articles in such journals as the *Journal of the American Medical Association* and the *New England Journal of Medicine* are usually surprisingly straightforward. In addition, every comprehensive cancer center (see Appendix, p. 373) has information centers or cancer hot lines that dispense facts or lead patients to relevant articles in popular magazines.

There have been no studies comparing survival rates between knowledgeable and indifferent patients, but many physicians agree with survivors that knowledge makes a difference. When patients come to Germany's Hans Nieper, he's careful to tell them everything he's doing and why. "It does away with all those question marks. It's psychologically so tremendously effective. The curing rate is more than twice as high as in the noninformed, just by the difference in knowledge, by their ability to understand what has to be done."

Dr. Marvin Rotman, director of the Division of Radiation Oncology at New York Medical College, although expressing caution about my conclusions regarding survivorship qualities, became enthusiastic as he described the characteristics of women who were choosing to have lumpectomies rather than mastectomies. "That's where you're going to see a lot of survivors," he told me. "These are the fighters. They had probably gone to surgeons who insisted they have a mastectomy or else their chances were minimal. They had to overcome the fears and beliefs of physicians who disagreed with what they wanted to do. Also they had to supply their own belief: they read books, they researched, they found out."

BELIEF

After their research, survivors were able to choose the method that made the most sense to them. Every long-term survivor believed in

his therapy; except for Dr. Sattilaro I never met one who doubted or hated it.

Leola Klise told me that she responded strongly to the idea of Lawrence Burton's immune therapy.

"It's the most sensible thing that's been developed, in my thinking—supplying your own immune system something to build it up. My feeling is that this is such a simple answer. The only common-sense treatment that I can see is building up your body against diseases."

Did she feel that as soon as she heard of it?

"Ooooh, yes! I felt, 'My! That rings a bell.' And my husband, who was a very well-read man, very well educated, said, 'Well, that makes sense.' And we were quite excited to think that there was anything that was any kind of *hope*, you know."

Morris Abram told me that he thought Laetrile was ". . . silly. See, I have to be fortified by a theoretical framework. I can't believe in hunch and intuitions. Now, there's a theoretical framework for the possible immunizing effects of hepatitis; there's a theoretical framework for the value of second remission induction," he said, describing two events he felt helped him back to health.

Hans Moolenburgh introduced me to a young woman patient who had had a mastectomy and radiation in 1973. She went on the nutritional program, but in July 1976 cancer was discovered in her lungs, liver, and bones. She had some radiation with Moolenburgh's blessing and that helped her, but by May 1977 she began to deteriorate again. A persistent cough returned; she lost weight and was in great pain. At the end of May she began to take chemotherapy, stayed on the nutritional program as well, and did well on the chemotherapy with few side effects.

Moolenburgh later told me that she was a most difficult patient for him. Her father, whom she revered, was a physician. She agreed to see Moolenburgh only because her husband implored her to: Moolenburgh had successfully treated him when he was a young boy. "All the time she was seeing me, I had the feeling that in the back of her mind was the idea that if I failed, there was always chemotherapy. Her sympathy is really with orthodoxy and I've never really succeeded in winning her whole self. Her real trust is in the Cancer Institute and in the chemotherapy. And she has done wonderfully with chemotherapy."

Dr. Michael Schachter told me, "There's no question but that the people who are exuberant and who are really excited about nutritional therapy seem to do better than the patients who come in depressed and are being forced into it—they do not do well."

One of Schachter's patients is a young New York man with lymphoma. Since his diagnosis in 1978 Bob has refused all standard medical treatment and has been following a nutritional program that includes a staggering 125 grams—or more than a quarter of a pound—of vitamin C each day. This dose was not taken at the suggestion of Dr. Schachter, who usually recommends a modest ten grams, but because Bob believes in vitamin C. Very sophisticated about the alternative cancer therapies, he says, "I feel Linus Pauling is the greatest genius alive in the world today. The vitamin C theory makes so much sense to me. I just *know* it's right." Bob's cancer is under control and he has recently had his best blood test to date.

Scott Stirling, the former Hodgkin's patient who followed the Kelley program, said of his feelings toward the complexities of the demanding program, "I revolved my whole day around it and got high on it."

Irving Oyle, an osteopath and family physician for twenty years, organizer of New York City's first free clinic in the 1960s, and founder of a holistic clinic in Bolinas, California, in the early 1970s, writes in *The Healing Mind*, "Some patients decide that only the proper herb can heal while others put childlike faith in the power of the pill; still others insist that salvation can be achieved by mastering a particular yoga position or by repeating a mantra. *Whatever you put your trust in can be the precipitating agent for your cure.*"

It is not only pills and medications that can demonstrate placebo effect, but physicians as well. Such "primitive" healers as shamans, witch doctors, and tribal medicine men have always known how important it is for their patients to believe in them. The most successful doctors radiate such an aura of confidence in their own ability to heal that patients often feel better merely by being in their presence.

Belief that the therapist could help and trust that he was doing his best for the patient were vital. Survivors told me of the love, admiration, respect, and faith each had in his physician or healer. One doctor who had worked with Max Gerson spoke at a convention sponsored by one of the alternative therapy groups. He told the

audience, "In my several months at the Gerson clinic the only people I saw cured were nuns, missionaries, and housemaids, simple people who believed Gerson was God." However this physician went on to say, "There are no gods and Gerson certainly was not one," missing the point that these patients' faith in Gerson helped them to recover.

As Dr. Jerome S. Frank, professor emeritus of psychiatry at Johns Hopkins School of Medicine, pointed out, "There are cases on record of people whose cases have been called hopeless, but they have pulled through because of their belief not only in themselves but in the people who are aiding them."

It is such belief that is at the heart of placebo effect, and we have seen how powerful it can be. For cancer survivors belief in the treatment and physician seemed to trigger some vital, as yet unknown healing factor. Patients must therefore examine their feelings about their treatment. Are they wholeheartedly committed to it or do they have reservations? If faith can enhance the effectiveness of a therapy, then doubt might have some as-yet-undiscovered inhibiting effects. If patients are unenthusiastic about the therapy with the highest cure rate for their cancer, perhaps they should find the roots of their negativity. Is it based on fact or hearsay? If feelings are not based in reality, perhaps they can be changed. It might be better to learn to love a therapy that offers the highest probability of good results rather than to seek one that is not as certain. However if a patient simply can't warm up to a treatment—even if it is the most successful—he might be better off with another approach. When logic is exhausted, in the end it is a gut sense of what's right for him that tells the patient what to do.

Patients are not wedded to therapies; just as prognoses are not unchangeable so decisions about treatment can change also. Survivors didn't always stick with only one treatment throughout. Sometimes, like Mary Lee Rork and Beulah Glander, they began with one method, lost belief for one reason or another—usually because that particular treatment was no longer successful—and then sought and found another that made better sense.

TENACITY AND DETERMINATION

If a positive attitude and a strong belief in the method were all that was necessary for recovery, these survivors would not be so unusual.

We've all heard or read about people who refuse to become despondent or discouraged when faced with an illness or problem that most of us would find difficult to bear. But these survivors *kept* their determination and belief during extraordinarily difficult times. Despite deep suffering and sometimes excruciating pain they stuck to their therapies with tenacity, with an almost superhuman ability to override despair and doubt and keep themselves focused on their goals of recovery.

Mary Lee Rork likes to tell cancer patients the story of how desperately weak and pain-racked she became while on the Gerson therapy. "I tell that story to give patients a feeling that even in the midst of some sort of terrible crisis they mustn't give up. They can get well if they *keep going*."

Betty Fowler, who had a deeply painful carcinoma on her face, said of the Kelley therapy that led her back to health, "You follow a program and you think you're going to feel well at once, but you don't. I did not feel better at first. I felt worse. I had more severe stomachaches. I had more intestinal gas when I first got on the program and I felt weaker than before. I was also more nauseated than before. My body ached. Every day was full of flulike symptoms. My brain felt sluggish. I often had a fever. I was still depressed.

"But I kept on going. And my advice to other cancer patients is, don't panic. Stick with it. If you don't have faith, do it anyhow!"

Although M. D. Anderson's Dr. Fred Conrad rejected unproven therapies, he agreed that determination is a vital factor in recovery. When I asked him what was the most important piece of advice he could give newly diagnosed cancer patients, he said he frequently saw patients who had come to M. D. Anderson for a second opinion. Once a program had been laid out for them he told them, "Now that you've had this, we've agreed to stay with it. It's going to be very difficult. You're going to get frustrated, you're going to become depressed. It's going to be a long haul. But in the end, in this current therapy today, it's worth it. So stay with it and don't give up."

Cancer survivors developed a number of strategies to help them keep going. One tactic was learning to deal with pain. Pain caused by cancer or its therapies saps the will to live. Marijuana to relieve nausea caused by chemotherapy is fairly well accepted by the medical profession, but pain management with narcotics is currently the center of a fierce debate in the United States as more patients and

their families demand that heroin be allowed for dying patients. Although there is growing evidence that this does not lead to addiction, particularly when narcotics are administered *before* the pain begins, the concept of narcotics for cancer patients still meets with medical outrage.

Several survivors I talked to had developed techniques for overcoming pain without drugs. Christine Myers had to have an agonizing bone marrow test once a week for six months. "I think," she told me, "that if you have a reason to live that is greater than the pain, you can tolerate that above the pain. If it's worth it to you to suffer that pain, you're going to do it because you can block out the pain if you have to."

One patient turned to knitting or crocheting to keep her mind off her pain; Bernice Wallin immersed herself in books about immune therapy, writing of that study, "I allowed it to absorb my complete attention so that my mind was not on my pain."

Carl Botti, who had his leg amputated below the knee in 1971 because of osteogenic sarcoma, told me that when his pain got bad, he learned to meditate it away. "It was almost a game," he explained. "Can you think away the pain?" He told me that because he had always been very athletic, he was aware of his muscles and soon realized that when pain struck, he would tense up. "I was getting tired all the time and I knew from lifting weights that if you tense up you get tired more easily. So I learned to relax all my muscles. When the pain came, I would just let the first wave wash over me and not fight it. I would tell myself, 'Lower. Lower.' It became a real mental discipline. It got so I could get rid of any pain in ten or fifteen minutes," Carl said.

GOALS

Frequently specific goals help people to stay alive. We have all heard stories of people who cling to life until a birthday, a son or daughter's graduation, a wedding anniversary. A statistical study of 747 names taken from newspaper obituary columns by Dr. Phillip R. Kunz, professor of sociology at Brigham Young University, revealed that almost half died in the three months following their birthdays; only 8 percent died in the three months before their birthdays.

Hans Moolenburgh illustrated this ability to stave off death with the story of an old schoolteacher.

"Listen, Hans," the man complained, "there's something wrong with me. I've got a lump here and a lump there."

Moolenburgh diagnosed advanced cancer and when the man asked if he was going to die, Moolenburgh told him yes. The man told Moolenburgh firmly that he was sixty-four years old, and that when he was sixty-five, he would come into a lot of money that he wanted to leave to his son. It was very important for him to live until his sixty-fifth birthday. After that he could die.

"Well, I'll try," Moolenburgh told him.

"You must not try," the old man responded. "You must do it." So Moolenburgh gave him Iscador, put him on the diet, and the man continued teaching. When people asked him how he was, he would say, "Well, I've got four illnesses, but only two are deadly." He was dead ten days after his sixty-fifth birthday.

Moolenburgh told me, "The mind plays an *enormous* role. Enormous. They can hold up their death; they can forget their death; they can even go to death. Amazing!"

Breast cancer survivor Ruth Lipston, who had more than seven malignant lymph nodes when her radical mastectomy was performed and who is alive and cancer free today, more than five years later, told me that after her surgery, while she was undergoing chemotherapy, she was sitting in a park with her husband. It was a gorgeous, soft spring day, trees and flowers in bloom, but Ruth was blinded to it by her fatigue, fear, and depression. Her husband said, "Isn't it a lovely day, dear?" and suddenly Ruth realized how deeply she was trapped inside herself.

"I said to myself, Now, you've got a choice. You can either go home and jump off the roof, or you can set yourself a goal." The first goal she set was to stay alive to see the birth of her sister's first grandchild. Today her doctor tells her she can forget she ever had cancer.

Every cancer patient can set his own goals. Recovery, of course, is a basic one. Others can be found as patients examine their lives for what is really most important to them. What genuinely gives the most pleasure? What accomplishments are still undone? What places have not been visited, books not read, music not heard, skills not learned? A diagnosis of cancer does not mean it's too late to plan for the future but can lead to a realization of what kind of present the patient really wants.

LOVE AND SUPPORT

Repeatedly patients told me that their will and strength and fight was bolstered by the presence of a powerful, caring mate, who said in essence. "I will not let you die. You must be strong, live, and share your life with me." Although they loved their mates deeply, they did not indulge them or shower them with pity. They were tough and insisted that the patient focus on his own desire to recover. At one point Bob Gilley was so sick from chemotherapy he was ready to give up. "B.J.," he said to his wife, "I can't take any more of this. I really can't take the pain. I can't take the degradation of it. I can't take being sick three out of four weeks. I can't take the way people look at me." Gilley's wife, a tough southern lady, refused to accept that attitude. "Bob Gilley," she shouted at him as he lay in his hospital bed, "you get up out of that bed. You helped me bring two children into the world and I'll be damned if you're going to leave me with them here because I will haunt you in reverse!"

When Hy Radin came back from the hospital, sick nearly to death from his advanced cancer and the surgery, cobalt, and chemotherapy he had endured, his wife waited on him with patience and love. She prepared the endless vegetable juices, the special meals her husband required for months before he was well enough to take care of himself. "She supported me to this extent, that I don't think I would be alive today without her. She went through as much hell as I did." Her memory of the pain of that time is so great that she refuses to talk about it, even today, more than ten years later. But Mrs. Radin was also observant and stern. When her husband came home one evening complaining of a chest congestion, she pounced on him. "What did you have to eat today?" she demanded and insisted that he recall his meals. Hy finally remembered that he had eaten a bagel that morning, forgetting for the moment that his wheat intake had to be severely limited.

Carl Botti said of his family, "We're very close, very emotional people. It helped me a lot to have them there all the time. You need somebody there." If the cancer patient knows that someone cares, it can make him care. As Darrell Ansbacher, a Hodgkin's patient that Dr. Ernest Rosenbaum writes about in *Living with Cancer*, pointed out, "There are some psychologists who say a person won't get better

unless he knows it's important to someone that he does get better."

When Morris Abram's platelet count dropped from 80,000 to 30,000 overnight, Abram was horrified. His wife, although well aware of the mortal threat of his leukemia, always told him that he was going to be all right. When she heard this report, she said calmly, "The count's wrong."

"She was right," Abram told me. "The count was wrong. In any event she never regarded the disease as fatal. Everyone told her otherwise, but she didn't believe it."

When I asked him if he had any idea of how great a role his will played in his recovery, he answered, "I don't know. If you ask Dr. Holland, he'll point to my wife. Of course, that's half facetious and half true." Dr. Moolenburgh told me, "I always encourage the family to come. When the husband is not coming with the wife or vice versa, it's not good."

Psychological support was vital, but so was physical support and help. As Dr. Gerson writes of his therapy, "The practice of the treatment is a difficult task. The treatment in the hospital as well as in the home requires somebody's help all day long, particularly in advanced cases where a life is at stake and the patient is very weak. The family has to give up some of the social life and do this humanitarian work with deep devotion. The decline in our modern life is evident by this lack of devotion for the sick members of the family."

For people who are alone, cancer is a grim battle, but there are a growing number of cancer patients who have formed supportive groups that meet on a regular basis to discuss problems, exchange information, and share ideas and strength. The meetings can be highly structured and organized to reach specific therapeutic goals, or they can be as spontaneous as the car rides described by Lynn Ringer during which she and two other cancer patients shared their joy and pain.

One of the first of such groups is Make Today Count, begun in 1974 by the late Orville Kelly, a Burlington, Iowa, man who had had lymphocytic lymphosarcoma diagnosed in 1973. He couldn't tell his children, couldn't discuss it with his wife, his house had become a tomb. One bright autumn afternoon he realized that each day he lived could still be beautiful, even though he had cancer. He gathered his family around him and began to tell them what was on his mind. They in turn revealed their own fears about his illness. This

honest exchange was the beginning of a warm new time in their lives, and Kelly realized that other cancer patients must go through the same fear and silence. He invited a group of them to meet and discuss the ways cancer had changed their lives and what they could do to recapture joy once again. Today there are Make Today Count chapters throughout America where cancer patients meet once a week or once every two weeks to discuss the problems of living with cancer.

Bob Bauer, the Lutheran minister and psychiatric social worker who heads several Make Today Count groups in the New York City area, pointed out to me, "Sometimes I feel that coming to these groups is what keeps these people going."

Another rapidly growing survival-oriented organization, with more than 125 volunteers, is the Cancer Hot Line, one facet of Richard Bloch's Cancer Connection. This is a telephone network in which recovered cancer patients around the country volunteer to counsel and give support to new cancer patients.

Other groups include the American Cancer Society's CanSurmount and I Can Cope. We Can Do!, the fastest-growing and most survival-oriented group in the country today, was begun by firebrand Barbara Coleman, herself a fifteen-year survivor of glioblastoma multiforme astrocytoma, the deadliest type of brain cancer, first diagnosed at stage four, with tentacles deep in her brain. Barbara's surgeon told her husband, Roy, "She probably won't live out the year. And even if she does, she'll be a vegetable the rest of her life."

Barbara's surgery was followed by thirty-one cobalt treatments. "They shave your head. Then they mark the spot with indelible purple ink. Purple used to be my favorite color," she said. Barbara knew she would permanently lose her hair because of radiation, but she was unprepared for the fear and isolation she felt, her head resting on a wooden pillow, as she was wheeled in to the bunkerlike X-ray room. "I knew after that first treatment that I was going to have to do something to protect myself, so I pictured the X rays as machine-gun bullets that would destroy only the cancer tissue and not hurt the healthy tissue."

This was nearly a decade before Carl Simonton described the use of visualization. Barbara brings the same determination to We Can Do! Founded in the middle of 1980 with the blessing of Norman

Cousins, who is chairman of its board of directors, the organization now boasts eight chapters in California and two in Washington, D.C., to which patients come to break out of the numbing isolation of their disease, to talk out their rage, frustration, and desperate panic with others who understand, to cheer each other's positive achievements, and to share common problems as well as corny jokes, belly laughs, and training in the Simonton techniques. With her unstoppable enthusiasm Coleman calls all the cancer patients who belong survivors. "If they can get up and out, that's fantastic."

No definitive studies have yet been done to determine whether such support groups increase survival times, but some oncologists are beginning to think they do. California doctor Benjamin Stafford said of one of his patients, a woman who eventually died of her widespread cancer, "Evelyn was an outstanding example of what We Can Do! can accomplish. She was diagnosed as having an incurable cancer, and certainly the possibility was that she would live for only a very short time. Her association with the group was extremely beneficial . . . she learned to accept her status, to be optimistic—yet not unrealistic—about her cancer, and to take advantage of every day for what remained of her life. It was a critical component of her treatment.

"I don't think Mrs. Schuck would have done nearly as well if she had not had the kind of support which We Can Do! provided. It would be reasonable to say that she had a longer—and certainly a better quality—life during the several years after her diagnosis because she was involved with this group. A patient without her positive attitude would not have lived as long, considering her extreme condition."

THE DOCTOR

Every survivor I met adored his doctor, although some may not have felt that way initially. The Simontons urge patients to find a doctor or health team that cares. "We believe it interferes with therapy if patients feel they are being treated impersonally. Under such conditions, we encourage patients to attempt to alter the existing relationship and, if that does not work, to find a new physician or health team."

Josef Issels believes that the patient-doctor relationship need

not be, as it has been seen traditionally, an authoritarian one. He describes the ideal as ". . . a two-handed partnership building a bridge between doctor and patient over which the treatment regime courses." He says that doctors must find a way to treat the fatalism felt by advanced cancer patients. The patient must feel that he and the doctor are seeking an answer together. "By itself such an attitude cannot alleviate the physical symptoms. But what it does, and which should never be missed, is to create a favourable climate in which those symptoms can be better attacked."

Such a caring relationship is the kind most patients want—although those who feel more comfortable with a more authoritarian setup should find a doctor who fulfills that need—but it seems to be rare. The patient should remember that as in any relationship, understanding between patient and doctor must be forged over time. A patient with many questions might want to pay for one or two office visits devoted solely to questions: a way for both patient and doctor to get to know each other better. Most doctors will respect and get more involved with a patient who is knowledgeable, persistent, and a strong participant in the battle to get well.

Caring is shown not only by kindness and compassion. Hans Nieper relishes the role of teacher as well as physician. He was a bit perplexed, this quick-speaking, precise German, when I asked him how much he observed the psychological and emotional aspects of his patients. What is more important to him is to give them all the information he can and to make sure that they stick to their dietary program.

More than 90 percent of his patients, he told me, take all the medication he prescribes.

"How do you get them to do that?"

"I kick them in their ass until they finally do this," he said intently. "More than that, they have to do their homework. They must fill out boxes and write down precisely what they take and when, and then they have to show it to me like students every day. I will correct it and blame them if they don't do it. They sit there"—he waves his hand across his desk to the chair I sit on—"and I say, 'Where's the homework?'"

The Janker Clinic's Dr. Scheef described another important characteristic for the physician to have. "You must be able to vacci-

nate the patient with optimism. That is very important." Scheef sometimes does this in a very unusual way. He had mentioned to me that even though he treats his patients with extremely high doses of chemotherapy, sometimes bringing their white blood count down to zero, other physicians were always impressed by these patients' energy. "All doctors visiting our clinic," Scheef told me buoyantly, "seeing the patients under chemotherapy, say, 'Why are they doing so well? In our hospital the patients under chemotherapy are gray and depressed, but not at your clinic.'"

"Why does that happen?" I asked innocently. "What else are you doing to keep them going even with such low white counts?"

"Very important," Scheef began to break in even before I finished my question, "very important is—methamphetamine." And he cleared his throat.

"Methamphetamine!" I said. "Speed?"

"Yes. In the three or four days when the patient gets chemotherapy he gets every day one ampule—fifteen milligrams—of methamphetamine. To make him optimistic—to bring him . . ." Scheef struggled for the right word. "Yes—he thinks he can bring out trees," he finished triumphantly.

PATIENTS WHO CHOOSE TO DIE

I met scores of survivors while researching this book. I also met cancer patients who later died. I never met a patient who had lost the will to live and who recovered. I met patients I thought would be survivors but who lost their will and died. Every physician I met or spoke to, or who wrote about will to live, confirmed that without it survival was not possible. Irving Oyle, in *The Healing Mind*, writes, ". . . if a patient chooses not to recover from an illness, there is very little that can be done to alter the course." Dr. Cole told me, "I have seen patients that said they were going to die, they were ready to die, and they're going to die, and they seem to die." Founder of macrobiotics, George Ohsawa, writes, "*In order to cure a cancer-patient who has already surrendered, it is first necessary to change his attitude. This must be accomplished at any cost.* Otherwise everything is useless and the patient might just as well be dead."

So often I heard from friends or relatives of cancer patients who died, "He just gave up." One patient I met had a prostate cancer that

continued to grow despite the best therapies. He often called me to ask about alternative therapies. He was knowledgeable and his questions were good ones. They were, however, always aimed at showing why a particular therapy would not work for him. They were what I called "Yes, but . . ." questions.

I learned during one of our talks that this man had had a successful business, had lost it, and saw no way he could ever rebuild. He had no friends, no one close to him, nothing to live for, and he felt it acutely. It was easy to understand why he died.

Other cancer patients followed therapies they didn't believe in wholeheartedly. One man, who had an inoperable brain tumor, was an owner of a well-known retail source of vitamin and mineral supplements. As a pharmacist he was acutely aware of the dangers of the anticonvulsive and antiinflammatory medication he was taking. Yet despite his strong reservations about these drugs, when asked if he was following a nutritional program either to counteract them—or to aid in his therapy—he shrugged and said, "My doctor doesn't believe in it."

Dr. Bernauer W. Newton told me that for some, life was not important enough to make the effort to follow a particular therapy. "Probably the most startling thing that we have encountered was that a lot of people don't care whether they live or die," he told me. "They tell you that they do, but they behave as though it's very clear that they don't. They don't really have a lot to live for. They're retired; their families are gone; their wife has left them, or died; they're not able to get out and play golf, or whatever it is that they were interested in. They really and truly have very, very little to focus on as something meaningful in their lives.

"I'll give you a beautiful example. We had a middle-aged man referred to us, and it became very apparent in the first session with him that he was very indifferent about the things that we were doing. He came to two appointments and we set up a third that he canceled. But he made another appointment. Two hours before the fourth appointment was due, he called and said that he couldn't come, and I happened to be available, so I got on the phone with him, and I said, 'What's the matter? Why can't you come for your appointment today?' And he said, 'Well, I've been trying to sell my lawn mower, and somebody called just a few minutes ago and said that the only time he could come and see my lawn mower was at two o'clock

this afternoon and that's when I have my appointment with you, so I'm going to have to stay at home.' That tells you something about where that person is in terms of his feelings about going on with his life. Or at least it tells you something about his conviction that nothing anybody is going to do is going to help."

As Carl Simonton discovered, often patients become so attached to the secondary gains of their illness that to fight it creates tremendous conflicts. Bob Gilley, who for years counseled cancer patients as a result of his remarkable healing, told me that he would ask people to list the reasons they have to live and the reasons they have to die, a technique he learned from the Simontons. Gilley told me that this exercise really opens people's eyes.

"A lot of people come back and say to me, 'You know, I really didn't realize what a heavy issue my job was. I hate that place. And the secondary gains I'm getting? I don't have to go to work.' Or as one woman said, 'Do you know my husband is bringing me breakfast in bed for the first time since the first six months we were married?' And I said, 'Well, that's good. Do you think you can get him to do that without the cancer?'"

If patients cannot give up these gains or find other ways to get the same benefits, they frequently die, no matter how much they say they want to conquer their cancer. Sylvia Zuckerman told me about a friend who died of the same metastasized ovarian cancer Sylvia had had. In a conversation one month before the woman's death, she told Sylvia, "I always felt that if I was going to die that I would want to die fast. But I don't. I really have a very nice life." Her husband had taken a leave from work and stayed home with her all the time. She said, "We read together and it's really nice." She had one son with whom she had had a very bad relationship, but now he was visiting her attentively every day. Sylvia told me, "That was a very big turning point for me because it showed me with *such clarity*—my God—what she'd have to lose if she lost the cancer!"

"And I went to Dr. Newton and I told him that I had tried to talk her into doing visual imagery and that afterward I felt *guilty!* 'She obviously wants to die,' I said, 'and what right do I have to try to talk her out of it?' Dr. Newton pointed out, 'She doesn't want to die. She wants to *be dying.*'"

Sylvia, on the other hand, told me, "I really worked very, very, very hard on not having any emotional payoffs from having cancer.

I resolved to conduct my life in such a way that there wouldn't be one nice thing in my life that stemmed or derived from my having cancer, that unconsciously I would want to cling to."

She was so determined not to get any special attention as a cancer patient that when she became a member of the Los Angeles County Grand Jury, she didn't tell the other jurors she had cancer.

"I felt that I wanted to function as a normal person," Sylvia said, "and that I didn't want to function as a person 'dying of cancer.' I also felt that in all my dealings with my fellow grand jurors, they would psychologically have one hand tied behind them in any argument with me if they knew I had cancer."

Some patients gave up because they were suddenly faced with an unacceptable life situation that they could not change. Bob Gilley told me the story of a young girl who had a brain tumor and had a total remission. "She was absolutely disease free, and off all medications, *beautiful* young girl, married, no children, both of them career people. They moved out of town and she was not happy being away from her family. And not long, several months later, she developed another tumor and gave up, would not fight it. She died."

Some patients died not so much because they had lost the will to live, but because they had made a conscious choice, some that it was time for them to die, some that other things were more important than life itself.

Tall, deceptively sturdy-looking, Mimi Bogen with her cropped black hair and pale, pale skin was a leukemia patient. Mimi was also so severely hypoglycemic that she would sometimes suffer schizophrenic episodes. Nutritional physician Carl Pfeiffer had put her on a megavitamin and mineral program that had kept both her hypoglycemia and schizophrenia under control. When her leukemia was first diagnosed, in order to gain her remission she was given emergency chemotherapy treatment in the hospital. She was fed glucose, which precipitated a terrifying schizophrenic break. Chemotherapy had put Mimi's leukemia into remission, but when I met her, she stated adamantly that she would never take chemotherapy again.

Mimi sharply repeated that if she was going to die, she wanted to die with dignity. "My sanity is worth more to me than my life," she said. Once she told me, "I would rather die wanting to live than live wanting to die." When she lost her remission at the end of a year, she refused chemotherapy, weakened, and died.

In their book *Getting Well Again* the Simontons describe patients who simply don't have the energy to fight anymore and who willingly let go of life.

UNCONSCIOUS LONGING FOR DEATH

These deaths were easy to understand. There were others who were not so simple. These people seemed to display all the survivors' traits: they said over and over again that they were determined to lick their cancer; they had loving mates who would do anything to save them; they had faith in their doctors and their therapy, but died anyway. I met some of them, heard about others from physicians and from friends. They seemed to refute the thesis that mind can control body. Their cancers advanced and killed them despite everything they did and wanted to do.

Of course some of these patients were simply diagnosed too late. Although, as we have seen, there have been recoveries in the face of seemingly hopeless odds, sometimes vital organs have been destroyed or are too badly damaged for anything to save their owners. Some patients had been poisoned by too much chemotherapy and radiation ever to recover, or had too many essential body parts cut up or removed by surgery. Some were constitutionally weak, with deficiencies or limitations that at the best of times and under the best of conditions could only be altered by tremendous efforts of will and drive to succeed. Sometimes there just wasn't time.

Sometimes, however, there appeared to be a subtle but discernible difference between those patients who survived and those who seemed to have a strong will to live but who eventually succumbed. This difference is explained by Anthony Verdi, a leukemia patient described by Dr. Ernest Rosenbaum in *Living with Cancer*. Verdi says about his disease, "I had a total conviction that I would be all right. . . . I subscribe to the notion that anything can be done if you believe in it strongly enough and this includes the eradication of disease. . . ." Rosenbaum's own belief is ". . . we both know the will to live makes a difference, and that patients who have this desire to survive fight harder and do better medically than those who lack the drive. It's an intangible, unmeasureable force that makes a difference."

"I believe it makes all the difference," is Anthony's reply. "If

you have the faith that you're going to make it, if you have the will to win, you'll make it. And if you introduce any doubts, you've had it." When Rosenbaum then reminds Anthony of the people who say they're going to beat their disease and then don't, Anthony responds, "The difference is, they don't believe it. In the back of their minds they're really saying, 'You fool. You're really kidding yourself.'" When I read that passage, I thought of Hubert Humphrey. His public words announced his determination to beat his disease. His eyes, however, were not full of hope for the future but of fear.

I first met a man I'll call Mike Minter, who had malignant melanoma, at a seminar sponsored by José Silva, founder of the relaxation, meditation, and healing course called Silva Mind Control. Mike was using Silva techniques in addition to his chemotherapy to conquer his cancer. Full of life and energy, he often said he was determined to beat the disease and that he was sure he would be a survivor. Yet behind his brave words I could also see fear. It always sounded to me as though he never really believed what he was saying; he was whistling in the dark, protesting too much. Also, when I met him, he was unhappy with his physician and was eventually treated by doctors at Memorial Hospital with chemotherapy and, when he no longer responded to that, with experimental immunotherapy. He was never satisfied with these therapies but continued to take them. He became discontented with Silva, always searching for something more. But his search was not focused; he had the energy but he never sounded or acted as though he was engaged in a fight for his life. When his wife called to tell me that he had died, behind my sadness was the awful perception that I had known all along that he wouldn't survive.

When I examined some stories of patients who announced their determination to recover—but who didn't—I found their words said one thing, but their actions another. I spoke to the widow of a man I'll call Mark Brown, who had died of his metastasized prostate cancer. She told me that her husband had been a fighter and that he really wanted to live. But her story said something else.

After several years of orthodox treatment the Browns went to Europe in 1976 and there saw both Hans Nieper and physicians at the University of Austria Medical Center. In Austria Brown was treated with Honvan, an estrogenlike drug not available in the United States. Between Nieper's therapy and the Honvan his cancer

was put in remission. At that time, Mrs. Brown told me, her husband felt wonderful. He had no pain, was full of pep.

"We went out every night; he worked eight hours a day. And he was only taking one one-hundred-twenty-milligram pill a day instead of the ten he had to take previously."

The Browns returned to America in April 1977, and his doctors in upstate New York took him off Honvan, telling him it was doing no good. It's hard to understand why the Browns accepted that decision when Brown felt so much better while he was taking the European drug. Mrs. Brown is extremely bitter toward the doctors who ridiculed the hormone, telling me, "If we had stayed in Europe, I'm sure my husband would have been alive today." But the Browns allowed their physicians to convince them and to put Brown back on the old drugs. His cancer returned.

Brown went to one nutritional center in October and again in December 1977, and Mrs. Brown told me, "Both times it helped." But when he came home, he wouldn't stay on the diet. He had been a gourmet all his life and he wouldn't give up the meats, sauces, and gourmet foods that he loved. "I prepared ten vegetable meals for him a day," she said, "but he wouldn't eat any of them." He told her, "It's my choice. I'm not going to suffer." Mrs. Brown didn't have the heart to force him to change his eating habits.

MYSTERIES OF HEALING

Of course even a totally genuine will to live does not always guarantee recovery. We all know—or know of—cancer patients who fight with every reserve of energy they have, showing complete consistency between words and actions, no holding back—yet die. This, in fact, was a frequent, "Yes, but . . ." argument that I heard from some physicians, lay people, even cancer patients. It is a point on which the relatives of cancer patients who battled but did not live are particularly sensitive. Certainly there are imponderables of the disease that make it impossible to predict who will survive, other unknown factors including inherited strengths and how well each patient responds to treatment.

Yet the evidence I found left me certain that will to survive and its characteristics played a vital role in recovery. I never met a survivor who told me, "I didn't care whether I lived or died," or "I didn't have anything to live for and I didn't want to get well," or, "I

just didn't have the energy to fight anymore." The patients I met who expressed these feelings did in fact go on to die. I felt great sadness for these brothers and sisters in life, but no one can understand another's depth of despair. No one knows what combination of pain and hopelessness might lead a cancer patient to stop fighting for life. And, I learned, it was not reprehensible to give up. For some, who were simply worn out from the battle—either against their cancer or within their lives—it was the only action possible. Even if they did go on to die, however, patients who sought to understand their role in their illness and who worked to expand their lives by changing their behavior were able to improve the quality of their last months.

CHANGE IS POSSIBLE

Clearly, for those who want to battle cancer with all the most effective tools, the attitudes and behaviors of survivors offer superb models. It might mean the difference between life and death for cancer patients who do not have these qualities to attempt to develop them. Is such change realistic? Can it be done? Or must a patient be born with such characteristics? The survivors I met were not all supermen. Although many were outstandingly successful in their professions, others were simply businessmen, retirees, farmers, housewives. Many of them, however, told me that they had always had strong will and the ability to fight.

Some physicians are skeptical about patients' ability to change. Bob Gilley's oncologist, Dr. Robert Fenning, began to introduce some of his cancer patients to the Simonton approach after he saw how well Gilley did. But although Fenning saw some initially promising results, eventually all his patients who were using the Simonton techniques died. Gilley pointed out to me that Fenning usually was skeptical about the effectiveness of such extramedical therapies. Gilley had to infuse his doctor with optimism anew at each visit. It was possible that Fenning's skepticism transmitted itself to his patients.

Fenning told me that he thought Gilley recovered not because of the Simonton techniques but because of Gilley's own will to live. "He's an extremely positive person and a very determined person. And this became apparent even before his cancer." When Gilley was a child, his favorite story was "The Little Engine That Could," and

he displayed his tenacity by overcoming a repeatedly fractured hip that doctors believed would require him to walk with crutches for the rest of his life.

Fenning believes that it is unfair for Gilley to spread the gospel of the Simonton technique, because very few people have Gilley's intellect or determination. Indeed, not every patient Simonton sees responds as well as Bob Gilley did.

How effective is any mind/body technique—or the death threat of the disease itself—at transforming a negative, self-effacing, nonaggressive cancer patient into a fighter, a cancer survivor? Flint Sparks, formerly of the Cancer Counseling and Research Center, told me that he couldn't answer that question quantitatively, as the Simontons have not yet done studies in that area, but "Subjectively, people change," he said. On the basis of my research I too strongly believe that while such turnarounds are rarely easy, they are frequent.

Sylvia Zuckerman was one such patient. Bernauer Newton had called Sylvia a fighter, but she didn't feel that way. "I don't think I'm tough," she told me. "I was very intimidated by doctors; I was scared of them, and never spoke up."

Her cancer, however, changed her.

"My greatest fear in life, before I got the cancer, was of getting cancer. I'm really scared of pain, and so I really had the worst thing in the world that could happen to me. And I don't know what happened after I got cancer, but the way I phrase it is that from somewhere within me I found a reservoir of strength that I just never knew I had. What cancer does is simply make an individual face a fact that is true for everyone, that the number of your days on earth is not infinite. And nobody faces it. Everybody feels that everybody else is going to die but him.

"Cancer changes all that. I took the attitude that I was dealing with a potentially death-dealing illness and that there would be nothing that I would not be willing to try. And so I opened my mind and accepted things and participated in things that as far as I was concerned were nuts. If you want to know how I've changed, that's where the big change is."

When she took a psychological test, she hesitated at the statement, "I am healthier than most of my friends." Her husband was amazed that she was having trouble deciding whether it was true or false.

"Well, yes," she told him with some surprise, "except for my cancer I really do think I'm healthier than most of my friends."

Another patient whose cancer transformed him is a man I'll call Richard Powell, a clinical psychologist in a major American city who asked that his name not be used. Dr. Powell's soft voice concealed a core of unshakable steadiness, but there was a time in his life when the only thing steady about him was a rudderless drifting. Before he became sick, he had been working for the Welfare Department but had no goals. Although he had been a seminarian, had passed all his exams, and in order to be ordained needed only to call the bishop in charge, he had never done so. He had been living with a woman but had not made the commitment of marriage. His whirlwind experience with cancer changed all that.

In February 1959 he was diagnosed as having embryonal cell carcinoma of the left testicle. Despite removal of the testicle and a course of cobalt radiation, by the beginning of June his cancer had spread to his neck and throughout his lungs. "I was told that I was going to die, that I had maybe three months to live. Apparently my lungs were like Swiss cheese," he told me matter-of-factly. Powell's radiologist told him that he had one chance in four, "So I kept rooting for that one chance," Powell said. He later learned that his radiologist actually thought his chances for survival were zero. But, as Powell says, "He sort of intuitively did the right thing; he gave me something to hang on to."

On the first of August 1959, Powell got back the hospital report with the news that his X rays were clear and he was pronounced cured. His doctors were dumbfounded by his recovery. For years his was used as a teaching case at his hospital.

In the two months between his death sentence and his recovery Powell packed in an extraordinary amount. Throughout the month of June he received massive doses of X ray and nitrogen mustard. "I had the most radiation you can have without being toxic. That's why nobody wants to give me an X ray anymore. Coordinated with that was nitrogen mustard treatment, which made me sick as a dog." In addition Powell worked with Margaretta Bowers, a psychotherapist who treated him with deep hypnosis for two to three hours every day. She had worked closely with Dr. Lawrence LeShan and believed in the power of mind over body even though her experience told her that Powell's case was hopeless. "She put aside all of her medical training and made the as-

sumption that I was curable and worked from there. She worked in deep hypnosis with me with suggestions about health, healing, and well-being and really sort of zapped me into living." Powell had begun seeing Dr. Bowers for psychotherapy only six months before his illness, but "She let herself really get involved. After my first surgery she was in the recovery room when I opened my eyes." Powell had been part of an ongoing psychotherapy group and continued that after his diagnosis.

In addition to his emotional and physical therapies Lawrence LeShan urged him to get ordained and he decided to do so. He asked the woman he was living with to marry him. Skin and bones from his treatments, he pulled himself together to make the painful trek to city hall to get a marriage license and was wed on July 13.

"So I got ordained a deacon in the Episcopal Church and I got married and I was in this deep hypnosis and group therapy and I was doing all this medical treatment. It was intense," Powell remembered. He received his ordination on August 1, the same day he got his clear X rays.

The cancer gave Powell's life direction and meaning. He even took charge of his own treatment, correcting mistakes that he saw in the hospital. His radiotherapist had told him that chemotherapy worked best when it was integrated with radiation. "They had me all ready to get my first chemotherapy treatment on the weekend, when there was no radiation done. I refused to let them do that. They checked and they found out that I was right, so they postponed the chemotherapy until Monday, when they could do the radiation and chemotherapy together."

Was it the hypnotherapy that got Powell well? Was it the group therapy? Was it the radiation or the chemotherapy? Powell thinks that everything he did played a role in his recovery, from nitrogen mustard to group therapy. "The group was a lifening experience. All this is life and somehow I seemed to get very much involved in life and I was threatened with death, and here we are. I don't know what got me better," Powell said. "Maybe I got me better."

It is possible to change. The deep threat of a cancer diagnosis alone can inspire massive adjustments in outlook, needs, and drive. Such emotional changes can also create physical changes. Whether they will be changes motivated by despair or changes motivated by hope is, to a great extent, up to the patient himself.

HOW TO CREATE LUCK

I came across other elements associated with survivors that at first hearing seemed to be out of the patient's control. One of these factors was luck. Jean Pond, who, as a result of pressure from a brain tumor survived five grand mal seizures in one hospital night, writes in her book, *Surviving*, " 'Luck,' said the surgeon who had closed my head. And what do I make of this? Nothing. Luck is the word we use for things we can't explain."

So many times I heard of "lucky" coincidences that led patients to the right therapist or to the right treatment. Eydie Mae Hunsberger's fortuitous meeting with Wynn Davis, for example, or John Ashbaugh's mother-in-law meeting a Gerson survivor on a bus, or Charles Humpley's discovery of Laetrile.

Physicians also talked to me about luck. Dr. Ewan Cameron said, about the first terminal patients on whom he used vitamin C, "I think we were *lucky*—if you could use such a phrase in such a situation—in that the first cases we had responded most dramatically. One or two of the patients were clearly dying, and dying, clearly, within a week or two, and they got better." Dr. Theodore Miller said to me, "There's very frequently a great element of luck in these stories of survivors."

But if we examine "luck," we find that a large part of it is being in the right place at the right time. And perhaps survivors developed that fortunate penchant—as we can *all* develop it—by learning to be more intuitive about themselves.

Listening to the signals of the body is one responsibility of any person. It is what leads successful cancer patients to a second opinion or more diagnostic tests when their doctor tells them nothing is wrong and they *know* something is wrong. For the patient who wants to be healed, responsibility merely begins there. Once a diagnosis is made, the patient must listen to the intuition that guides him to a successful treatment, whether or not it is sanctioned by traditional medicine. The patient is responsible for developing an attitude of hope that improvement is possible. Negativity leads to a diminution of luck; it leads people to disregard opportunities that are all around them. A negative attitude makes patients believe that *nothing* can help. Such patients say they don't want to run from place to place seeking a cure. But that attitude reflects

giving up, and negative expectation often becomes a self-fulfilling prophecy. A person thinks nothing will help and so chooses to do nothing that *might* help, and eventually nothing *can* help. So the patient, by being open to all possibilities, can actually increase his luck.

Warren Thorning, sitting across the table from me at Motel 8, summed this up when he told me, "Many people won't look at this treatment. They won't leave home. They won't do anything. They'd rather lay home and die. Others fight and lose. Also, they fight and win."

LOVE OF LIFE

One other quality that all these cancer survivors have in common is their joy in being alive. Often this love of life was at the root of their recovery.

Dr. Hans Moolenburgh judges his patients' survival chances by their love of life.

"I always put to them one question. I say, 'Do you want to live?' And they say, 'Oh yes,' and I say, 'Why?' When they say, 'Oh, well, I've still got a wife who can't do without me,' or 'I've still got an old father,' then I've lost my patient, because their own gist of life is lost. But when they say to me, 'Doctor, I want to live because I *like living*,' then I have a good chance.

"I always say to the patients who are very ill, 'Listen, are you in pain now?' When they say, 'No, not now,' I tell them, 'Enjoy this hour. Do something nice. Enjoy this day.' Some will say, 'Yes, but tomorrow,' and I tell them, 'Never mind about tomorrow. Enjoy today.'"

In Dr. Burton's waiting room Beulah Glander talked animatedly about her trips from one therapist to another, her change in diet, her exercise programs, her admiration for Burton. "Now be sure you say that I said this," she told me, pointing at my notebook, "be sure you say that Beulah always says, 'A merry heart doeth good like a medicine.'" Beulah has been battling her pancreatic cancer, one that usually kills in a year, for more than eight years as of October 1982.

Bernice Wallin's mastectomies took place just after her son's death when she didn't care what happened to her. But, when she

discovered her cancer had metastasized, she noted, "Now I had more desire to live . . . I had by this time convinced myself that life was precious, and that I had not done enough with mine. So many things to do, so many things left undone. I was holding on to my life with a firmer grip. I wasn't ready to let it slip away."

And love of life reasserted itself after their recovery. For each of them cancer was a turning point—a recognition of the wonder of being alive and for this, many of them were grateful to their illness. The Texan Clifford Oden calls his book *Thank God I Have Cancer*. Another patient said, "I really believe that the best thing that ever happened to me was to get so-called terminal cancer." And Morris Abram told me, "My secretary will bring in this month a list of forty invitations to see interesting people. The list of people I was invited to be with one month went from premiers to presidents. I turned them all down. I won't do it. I would have before. Today I don't think that's important. I'd much rather be at home with my family, my wife, reading a book or taking a vacation. Fame, glory—they don't mean that much to me anymore. They used to mean a lot."

"And I am ambitious, but not for ephemeral things like that. I think that every day counts a lot more."

"You know," he finished, "it was not an entirely bad experience. There are redeeming values to it. I don't recommend it; there are other ways to learn lessons. This is a very severe way, but it's a very effective way."

BEYOND BIOLOGY

There was also, in many of the stories I heard, but not in all, a strongly religious element, whether or not the patients thought of themselves as religious people. Some patients told me they had strong belief in God, a powerful faith that sustained them. Leola Klise told me, "I know that nothing is impossible with God."

During one of my conversations with Lynn Ringer she told me this. "One thing I might add, that did happen to me, and I don't know if this made—well, I know it made a difference, but I don't know if this has happened to a lot of folks or not, but I think it's significant . . ."

My ears pricked up. Whenever a survivor began in that tentative way, I knew something was coming that the survivor felt was

perhaps too outlandish to be accepted, that I was about to hear a mysterious and fascinating piece of information. "In the hospital," Lynn began, "I remember when I was given the diagnosis, I said in my mind, sort of, 'Thanks a lot, God.' We're not members of a church and we never have been, and yet we have our own belief in God. But I found that I couldn't even nurture up a prayer, or anything. I just could not. I was really angry right at that moment.

"A couple of days after the surgery I had a lot of IVs and a nose tube and all this chemotherapy in my belly, and all that, so I have to preface it by that. It was about two days after, at night. Al had gone home, everybody was gone, and the nurse kind of bedded me down. I had had a hypo and I was just feeling no pain. And so I know I was really doped up.

"But I had this . . . vision, if you will, that I was in a pair of very large hands, and—kind of put your hands together like you're holding a cup, you know—and I was like this little tiny doll or something lying in these hands, and the hands were just rocking me, very gently. And it wasn't Jesus or God or anybody I had ever heard of before, but they were as real as my bed was real. And I opened my eyes and I felt the guard rail. 'Wait a minute. What's happening here?' And so I know that I was kind of awake, all the time knowing I was fuzzy with all the drugs, but I really wasn't, I don't believe, hallucinating. I really *knew* what happened.

"Well, I went to sleep," Lynn continued, "but the biggest feeling was that I just felt like I was taken care of. There was this huge wave of knowledge in my whole being that said, 'You're taken care of.' Period. And don't sweat it. And the next morning I remember waking up and nobody was around, and I was so—it just sounds really freaky, but I was really *happy*. And it's hard to imagine being happy, but I thought—'It's okay.' It was like a real knowledge that whatever happened now, I should just bear with it and don't worry about it."

I remember that Barbra Walz told me something similar when I asked her what made her different from other patients who had her disease and succumbed. "Something was going for me," Barbra told me. "I don't know what it was, but there was something on my side. I'm not a religious person," she went on. "I was a Catholic then, but not religious. There was something inside of me, a very definite sense of not letting the cancer take over. When I was in the hospital, about a week after my first lung operation, I was down. I woke up in the

middle of the night in the hospital and it was like a vision. It was real mystical. It was like seeing my life charted clearly ahead of me. You know how sometimes you stay up really late at night, making plans, really excited and happy? Well, that's how I felt." Barbra told me it was a turning point in her illness. She knew after that night she was going to make it.

New Yorker Francesca Cash told me that one evening when she was in deep pain from her metastasized breast cancer, immobilized on her back in a hospital bed, unable to turn over without help, she began to think of the meditation group she belonged to and started to meditate.

"I guess I was in a kind of a trance," she recalled, "and when the nurse came back, she shook me to wake me so she could give me my medicine."

"Mrs. Cash," the nurse said, obviously frightened. Francesca opened her eyes groggily. "This isn't the way I left you. How did you turn your body?" the nurse asked urgently.

"I don't know," Francesca said, bewildered. Sometime later the leader of Francesca's meditation group came to visit. Without knowing what had happened he casually mentioned that the group hadn't met on their usual night, but instead had met on the night she had moved. Just when Francesca had turned over in bed, the group had been meditating on her, sending her healing energy. Since that time Francesca has done nothing but improve, rapidly moving from helplessness to long bicycle rides on Manhattan's busy streets. Somehow she tuned in to that healing energy through her meditation, amplified by the meditation of the group.

These turning points seemed at first ineffable, also out of the control of the cancer patient. But these patients were open to some message. Whether it was God, a spiritual awakening—or a complex series of chemical changes in their own bodies—they were alert to signals telling them they would recover and transformed these signals into meaningful experiences. Such events inevitably lead to the necessity for a new definition of biology.

For a long time after I wrote the article that started me on this journey, I felt that every therapist had a piece of the puzzle. Repeatedly I heard from oncologists that cancer therapy was a very individual matter, that the type of treatment depended on the patient, the type of cancer, the stage at which the cancer was diagnosed, and

many other factors. Some of these elements seemed imponderable: even when seemingly identical patients were treated with the same therapy, they did not respond in the same way.

As my research continued, it became clear that there were other factors in the healing equation that have not yet been examined by the medical profession. These factors go beyond methods and treatments.

Hope, will to live, placebo, are powerful components of healing that have always been significant in the medicine of other times. Since the mid-nineteenth century, however, medicine has concentrated only on what can be measured by scientific techniques. But, as Dr. Denis Burkitt puts it, ". . . all too many people who call themselves serious scientists . . . do not believe that anything can happen outside a pure scientific discipline. They appear to have forgotten that not everything that counts can be counted, and not everything counted, counts." Hope, will to live, placebo, are the vital intangibles that slip through the net of scientific medicine.

The word *heal* means "to make whole," but the techniques of science focus on the particular, ignoring the whole and the interrelationships between parts. Gustav Eckstein, in *The Body Has a Head*, states, "Study in a test tube would seem ideal, except it makes some not immediately calculable difference whether a cell does or does not have the influence of the cells of a living body around it."

Ever since the development of atomic science Western man has sought to find the answers to life in improved measuring devices, believing that if we could only see smaller and smaller particles, we could penetrate life's essential mystery. But no matter how precise the instruments of magnification there is a limit to what they can see and to what they can explain. The electron microscope may tell us something about what happens, but it can't tell us how or why it happens. As Dr. Karl Ransberger, head of the German pharmaceutical firm of Mucos, pointed out to me, "Lay people always want to know a mode of action for everything which is used in medicine. But in practically all of our modern drugs we do not know a mode of action. We do not know how cortisone works; we do not know how an antibiotic works; we do not know how a hormone works." Nobel prize winner Albert Szent-Gyorgyi described this dilemma of medical science when he said, "The most basic property of the heart is that it is a muscle, and the chief property of muscle is that we do not

understand it. The more we know about it, the less we understand and it looks as if we would soon know everything and understand nothing."

Physical and chemical definitions that reduce matter to its atomic constituents have not been able to solve the problem of cancer. However post-Einsteinian physicists have smashed the atomic model of the universe, recognizing that the answers to life, to healing, and to creation are not found within the atom. Physicists now describe reality as composed of different interlocking energy fields, a notion that profoundly alters our view of the world as reducible to separate, independent particles. This new view of reality, rather than stressing the differences between things, stresses their similarities; rather than independence, it stresses interdependence; rather than emphasizing the particular, it draws attention to the holistic.

We are all energy bodies interacting in a universe composed of other energy bodies. Scientists are not separate from the molecules they observe; the energy fields of each interact and the very act of observing minute particles changes them.

Contemporary physicists suggest that the real medium through which change takes place is the medium of consciousness, the mind, which is simply another form of this energy. They make statements such as this one by Sir James Jeans: ". . . the stream of knowledge is heading toward a nonmechanical reality; the universe begins to look more like a great thought than like a machine. Mind no longer appears as an accidental intruder into realms of matter." Or this, by physicist A. S. Eddington: "The stuff of the world is mind-stuff."

This new holistic view of the world could radically expand the philosophy and practice of medicine. But although many doctors are recognizing the need to combine the science of medicine with the art of healing, change is slow. Lyall Watson, Ph.D., biologist, anthropologist, author of the book *Supernature*, says in George W. Meek's book on psychic healing, *Healers and the Healing Process*, that it is taking a long time for the ideas of physics to filter down to scientists in other disciplines. "The two worst culprits are biology and medicine. They are still descriptive sciences like old-fashioned geography, stuck with a reductionist thesis that keeps their workers fussing about at an atomistic DNA level, worrying about cells (the biological equivalent of the physicist's nonexistent particles) and

apparently totally unconcerned about the whole organism and the possibility of its holistic operation."

"There is no science of biology," maintains surgeon James Isaacs, yet it is within the narrow framework of this nonexistent science that doctors continue to ferret for the answer to cancer, like looking for a lost theater ticket in a pocket they've searched five times over. The answer is not there. It is in the consciousness of these remarkable survivors. In the wild cell proliferation of cancer lies energies of creation. Through a combination of will and belief cancer patients have found the ways to alter the material of their bodies, harnessing these energies not for death, but for life.

APPENDIX

TRADITIONAL CANCER MEDICINE

WHERE TO FIND INFORMATION

Unless otherwise noted, the organizations listed below engage in many different activities. These include educating the public and professionals, holding conferences, and publishing books and pamphlets.

American Cancer Society, Inc.
777 Third Avenue
New York, New York 10017
212-371-2900

The largest privately funded American cancer organization. Devoted to traditional research, public and professional education, patient and community services. Each state has a chartered division. Check your phone book or call national headquarters for the location of the branch nearest to you.

LAY PERIODICALS:

- Cancer News* (quarterly magazine)
- World Smoking and Health* (quarterly magazine)
- Cancer Facts and Figures* (annual statistical report)

National Cancer Institute
Bethesda, Maryland 20205
301-496-4000

A division of the U.S. Department of Health and Human Services. With an annual budget of a billion dollars, this government body's primary functions are to fund research and to help support the 27 Comprehensive Cancer Centers across the country.

Its newest information service for patients is the Cancer Information Service (CIS). By calling any of its toll-free numbers throughout the United States (*see below*), patients can find out where the latest and most promising treatments for their kind of cancer are available. CIS offices do not diagnose or recommend but offer access to the latest data. Their information comes from a database called Protocol Data Query (PDQ), which lists over 600 active treatment plans that are part of NCI's Cancer Therapy Evaluation Program. The database itself is not yet available to the lay public.

| | |
|---|---------------------------------------|
| Alabama: 1-800-292-6201 | Michigan: 1-800-482-4959 |
| Alaska: 1-800-638-6070 | Minnesota: 1-800-582-5262 |
| California: 1-800-252-9066 (area codes 213, 619, 714, and 805 only) | New Hampshire: 1-800-225-7034 |
| Colorado: 1-800-332-1850 | New Jersey (Northern): 1-800-223-1000 |
| Connecticut: 1-800-922-0824 | New Jersey (Southern): 1-800-523-3586 |
| Delaware: 1-800-922-0824 | New York City: (212) 794-7982 |
| District of Columbia: 1-202-636-5700 | New York State: 1-800-462-7255 |
| Florida: 1-800-432-5953 | North Carolina: 1-800-672-0943 |
| Georgia: 1-800-327-7332 | North Dakota: 1-800-328-5188 |
| Hawaii: Oahu: 1-808-524-1234 Neighbor Islands: call collect | Ohio: 1-800-282-6522 |
| Illinois: 1-800-972-0586 | Pennsylvania: 1-800-822-3963 |
| Kentucky: 1-800-432-9321 | South Dakota: 1-800-328-5188 |
| Maine: 1-800-225-7034 | Texas: 1-800-392-2040 |
| Maryland: 1-800-492-1444 | Vermont: 1-800-225-7034 |
| Massachusetts: 1-800-952-7420 | Washington: 1-800-552-7212 |
| | Wisconsin: 1-800-362-8038 |
| | All other areas: 1-800-638-6694 |

COMPREHENSIVE CANCER CENTERS

ALABAMA

Lurleen Wallace Tumor Institute
 University Station
 619 South 19th Street
 Birmingham, Alabama 35294
 205-934-5077

CALIFORNIA

Los Angeles County
 University of Southern California
 Comprehensive Cancer Center
 2025 Zonal Avenue
 Los Angeles, California 90033
 213-224-7008

University of California, Los
 Angeles
 Jonsson Comprehensive Cancer
 Center
 924 Westwood Boulevard
 Suite 650
 Los Angeles, California 90024
 213-825-5268

CONNECTICUT

Yale Comprehensive Cancer
 Center
 Yale University School of
 Medicine
 333 Cedar Street
 New Haven, Connecticut 06510
 203-432-4122

DISTRICT OF COLUMBIA

Vincent T. Lombardi Cancer
 Research Center
 Georgetown University Medical
 Center
 3800 Reservoir Road, N.W.
 Washington, D.C. 20007
 202-625-7066

Howard University Cancer
 Research Center
 College of Medicine
 Washington, D.C. 20059
 202-745-1406

Howard University Cancer
 Center
 Department of Oncology
 2041 Georgia Avenue, N.W.
 Washington, D.C. 20060
 202-636-7697

FLORIDA

Comprehensive Cancer Center for
 the State of Florida
 University of Miami School of
 Medicine
 1475 N.W. 12th Avenue
 Miami, Florida 33136
 305-547-7707

ILLINOIS

Illinois Cancer Council
 36 South Wabash Avenue
 Suite 700
 Chicago, Illinois 60603
 312-346-9813

Northwestern University Cancer
 Center
 Ward Memorial Building
 303 East Chicago Avenue
 Chicago, Illinois 60611
 312-226-5250

University of Chicago Cancer
 Research Center
 905 East 59th Street
 Chicago, Illinois 60637
 312-947-6386

University of Illinois
 P.O. Box 6998
 Chicago, Illinois 60680
 312-996-6666

Rush-Presbyterian-
 St. Luke's Medical Center
 1753 West Congress Parkway
 Chicago, Illinois 60612
 312-942-6642

MARYLAND

Johns Hopkins Comprehensive
 Cancer Center
 600 North Wolfe Street
 Baltimore, Maryland 21205
 301-955-8822

MASSACHUSETTS

Sidney Farber Cancer Institute
 44 Binney Street
 Boston, Massachusetts 02115
 617-732-3555

MICHIGAN

Michigan Cancer Foundation
 110 East Warren Avenue
 Detroit, Michigan
 313-833-0710

MINNESOTA

Mayo Comprehensive Cancer
 Center
 200 First Street, S.W.
 Rochester, Minnesota 55901
 507-284-3311; 284-8964

NEW YORK

Columbia University
 Cancer Center/Institute of
 Cancer Research
 Hammer Health Sciences Center
 701 West 168th Street
 New York, New York 10032
 212-694-6900

Memorial Sloan-Kettering Cancer
 Center
 1275 York Avenue
 New York, New York 10021
 212-794-6561

Roswell Park Memorial Institute
 666 Elm Street
 Buffalo, New York 14263
 716-845-5770

NORTH CAROLINA

Duke University Comprehensive
 Cancer Center
 P.O. Box 3814
 Durham, North Carolina 27710
 919-684-2282

OHIO

Ohio State University
 Comprehensive Cancer Center
 410 West 12th Avenue
 Columbus, Ohio 43210
 614-422-5022

PENNSYLVANIA

The Fox Chase Cancer Center
 7701 Burholme Avenue
 Philadelphia, Pennsylvania 19111
 215-728-2490

University of Pennsylvania
Cancer Center
578 Maloney Building
3400 Spruce Street
Philadelphia, Pennsylvania 19104
215-662-3910

WASHINGTON

Fred Hutchinson Cancer
Research Center
1124 Columbia Street
Seattle, Washington 98104
206-292-2930

TEXAS

The University of Texas System
Cancer Center
M. D. Anderson Hospital and
Tumor Institute
MB 920
6723 Bertner Avenue
Houston, Texas 77030
713-792-6000

WISCONSIN

The University of Wisconsin
Clinical Cancer Center
600 Highland Avenue
Madison, Wisconsin 53792
608-263-8610

ALTERNATIVE CANCER THERAPIES**WHERE TO FIND INFORMATION**

Arlin J. Brown Information Center
P.O. Box 251
Fort Belvoir, Virginia 22060
703-451-8638

Cancer Control Society
2043 North Berendo Street
Los Angeles, California 90027
213-663-7801

One of the oldest of the organizations that dispense information about alternative cancer therapies, the Cancer Control Society holds conferences and publishes books, pamphlets, and a comprehensive list (the green sheet) of physicians and treatment centers offering nontoxic therapies.

PERIODICAL: *Cancer Control Journal* (monthly magazine)

The Cancer Federation
3530 Ninth Street
Riverside, California 92501
714-684-0508

Committee for Freedom of Choice
in Cancer Therapy
146 Main Street
Suite 408
Los Altos, California 94022
415-948-9475

One of the original alternative organizations, this highly political group was responsible for the legalization of Laetrile in those states where its use is permitted.

PERIODICAL: *The Choice* (monthly magazine)

Foundation for Alternative Cancer
Therapies, Ltd. (FACT)
PO Box HH
Old Chelsea Station
New York, New York 10011
212-741-2790

FACT has offices throughout the country, sponsors an annual conference, and dispenses information about the nutritional therapies.

PERIODICAL: *Cancer Forum* (bimonthly magazine)

Health on Wheels
777 South Main Street
Suite 57-335
Orange, California 92668
714-978-6744

This company operates bus tours to the alternative cancer centers in Mexico. Often visiting nurses, and even, on occasion, a doctor, will lecture during the tour.

International Association of
Cancer Victors and Friends
7740 West Manchester Avenue
110
Playa del Rey, California 90291
213-822-5032

For more than fifteen years the IACVF has been dispensing information about the nontoxic cancer therapies. It is also known as the International Association of Cancer Victims and Friends.

PERIODICAL: *Cancer News Journal* (monthly magazine)

The National Health Federation
P.O. Box 1307
Monrovia, California 91016
213-357-2181

PERIODICAL: *Public Scrutiny* (monthly newspaper)

NONTOXIC CANCER CENTERS, PHYSICIANS, AND RESEARCHERS

GERSON THERAPY

Gerson Institute
Charlotte Gerson Straus
P.O. Box 430
Bonita, California 92002
714-267-1150

Sweetwater Terrace Retreat
17 Fourth Avenue
Chula Vista, California 92010
619-425-2813

HOXSEY THERAPY

Bio-Medical Center
615 General Ferreira
(Colonia Juarez)
Tijuana, B.C., Mexico
706-685-9735

IMMUNE THERAPIES

Lawrence Burton, Ph.D.
Immunology Researching Centre
P.O. Box F 2689
Freeport, Grand Bahama Island
809-352-7455/6

Josef Issels, M.D.

Ringberg Klinik
Postfach 149
8182 Bad Wiessee, Germany
011-49-8022/82751

Virginia Livingston, M.D.
3232 Duke Street
San Diego, California 92110
714-224-3515

LAETRILE

Ernesto Contreras, M.D.
Centro Médico del Mar
Paseo de Tijuana 1-A
Playas de Tijuana, Mexico
706-687-1850 through 1855
U.S. contact:
P. O. Box 1561
Chula Vista, California 92012
714-428-6438 (9-2, Mon.-Fri.)

Clinica Cydel S.A.
Apartado 3437
Tijuana, B.C., Mexico
706-687-1502-3; 714-428-2248/9

Hans Moolenburgh, M.D.
Oranjeplein 2
Haarlem, the Netherlands
023-316818

Hans Nieper, M.D.
21 Sedanstrasse
3000 Hanover, Germany
0511-33-31-61
(Call 9 A.M. Hanover time.
Bring tape recorder to
appointment.)

Bruce Halstead, M.D.
11155 Mountain View Avenue,
No. A
Loma Linda, California 95324
714-824-1750

John Richardson Center
725 South Center Street
Reno, Nevada 89501
702-323-0261

MACROBIOTICS

East West Foundation
17 Station Street
Brookline Village, Massachusetts
02147
617-731-0564

NONSPECIFIC METABOLIC THERAPY

William Donald Kelley, D.D.S.
International Health Institute
P.O. Box 358A
Winthrop, Washington 98862
800-527-0227
and
P.O. Box 402607
Dallas, Texas 75240
214-233-0408

NUTRITIONAL PHYSICIANS

Dan Dotson, M.D.
805 Cherry
Graham, Texas 76046
817-549-3663

Bob Gibson, M.D.
215 North Third Street
Ponca City, Oklahoma 74601
405-765-4414

Michael Schachter, M.D.
Mountainview Medical Associates
Mountainview Avenue
Nyack, New York 10960
914-358-6800

VISUALIZATION AND MEDITATION

Carl Simonton
Cancer Counseling and Research
Center
6060 North Central Expressway
Suite 140
Dallas, Texas 75206
214-373-7744

Bernauer Newton, Ph.D.
The Newton Center for Clinical
Hypnosis
11340 West Olympic Boulevard
Suite 350
Los Angeles, California 90064
213-478-0357

Ronald Waggener, M.D.
Methodist Hospital
Omaha, Nebraska
402-397-3000

VITAMIN C

Linus Pauling Institute
440 Page Mill Road
Palo Alto, California 94306
415-327-4064

WHEATGRASS THERAPY

Hippocrates Health Institute
6970 Central Avenue
Lemon Grove, California 92045
714-464-3346

Hippocrates Health Institute
25 Exeter Street
Boston, Massachusetts 02116
617-267-9525

SELF-HELP GROUPS

Cancer Care, Inc.
National Cancer Foundation, Inc.
One Park Avenue
New York, New York 10016

Offers professional social work counseling and aid to advanced cancer patients and their families.

The Cancer Connection
4410 Main Street
Kansas City, Missouri 64111
816-931-0030

Founded by lung cancer survivor Richard A. Bloch, the two branches of this organization offer treatment advice and emotional support.

The Richard A. Bloch Cancer Management Center
University of Missouri
850 East 52 Street
Kansas City, Missouri 64110
816-276-1000

Located on the campus of the University of Missouri, the center provides cancer patients with the opportunity to have their records reviewed by a Medical Treatment Panel. This group of cancer specialists decides on the best treatment plan for the patient and sends its recommendations to the patient's primary physician.

The Cancer Hot Line
4410 Main Street
Kansas City, Missouri 64111
816-932-8453

Cancer survivors answer phone calls from cancer patients, offering emotional support and confirmation that recovery is possible.

Cancer Lifeline
500 Lowman Building
107 Cherry
Seattle, Washington 98104
206-447-4542

Offers supportive counseling to cancer patients and their families.

Candlelighters Foundation
123 C Street, S.E.
Washington, D.C. 20003
203-483-9100 or 544-1696

A national organization with over 110 chapters in 40 states offering support to parents of children who have cancer.

CanSurmount
Contact your local American Cancer Society
office for the division nearest you.

A program in which recovered cancer patients volunteer to visit newly diagnosed cancer patients, offering emotional support and, if necessary, physical aid.

CHUMS (Cancer Hopefuls United for Mutual Support)
3310 Rochambeau Avenue
Bronx, New York 10467
212-655-7566

Founded by recovered breast cancer patient Sarah Splaver, this group sponsors conferences with guest speakers, publishes a newsletter, and offers rap groups for patients.

Dayspring
P.O. Box 11421
Charlotte, North Carolina 28220

Cancer patients and survivors meet for mutual support.

I Can Cope
Contact your local American Cancer Society
office for the division nearest you.

Led by health professionals, these groups offer patient education.

International Association of Laryngectomies
777 Third Avenue
New York, New York 10017
212-371-2900

Make Today Count
P.O. Box 303
Burlington, Iowa 52601
319-753-6521

Founded by the late Orville Kelly, this organization offers cancer patients the chance to meet, often under the supervision of a clergyman or social worker, and to discuss the kinds of problems they face. Patients offer each other suggestions on how such problems can best be solved. Make Today Count has branches in many major cities.

Ronald McDonald House
c/o Golin Communications, Inc.
500 North Michigan Avenue
Chicago, Illinois 60614
312-836-7100

In several cities throughout the country, these houses provide low-cost lodging near hospitals to parents of seriously ill children.

Reach to Recovery
Contact your local American Cancer Society
office for the division nearest you.

Breast cancer patients visit new mastectomees, offering information, emotional support, and an exercise program.

Mary Lee Rork
P.O. Box 1792
La Mesa, California 92041

Recovered cancer patient Mary Lee Rork provides spiritual inspiration and detailed information on the Gerson therapy to interested cancer patients.

Bernard Siegel, M.D.
The Exceptional Cancer Patient
2 Church Street South
Suite 114
New Haven, Connecticut 06519
203-772-0650

Since 1979 Connecticut surgeon Bernard Siegel has been teaching groups of cancer patients meditation and visualization techniques both to help them cope with their lives and to help them recover.

TOUCH (Today Our Understanding of Cancer is Hope)
In Alabama contact your local American Cancer Society
office for the division nearest you.

Patient volunteers visit with newly diagnosed cancer patients.

United Ostomy Association
1111 Wilshire Boulevard
Los Angeles, California 90071
213-481-2811

An organization offering emotional support and rehabilitation for patients who have had ostomies.

We Can Do!
P.O. Box 731
Arcadia, California 91066
213-357-7517

Organized by brain cancer survivor Barbara Coleman in 1980, this support group now has branches in several cities. Its chapters offer weekly meetings where cancer patients can find encouragement, love, friendship, and support from survivors, other patients, and health professionals.

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