This file contains pages 79, 88, 146, 231 & 241 of *A Machine Called Indomitable*.

Please scroll down to the page you want.

kinds of cancers could be transmitted through viruses. It took more than half a century for that discovery to be taken seriously—and did not occur until the scientist was eighty-six years old! Alexander Fleming discovered penicillin in 1928. It was fifteen years before his discovery was acknowledged and put to use! In the interim, many people died needlessly from infection.

"Vested interests, the jealousy of other scientists, bureaucratic inefficiency, the simple ingrained hostility of Establishment authorities to new ideas—all are obstacles that delay use of a new development or suppress it indefinitely.

"Citizens' Campaign has been organized because such obstructions are unacceptable to victims of cancer whose only hope is an early scientific breakthrough—and unacceptable to the rest of us who live in fear of the disease. The Campaign has therefore arisen as a grass roots movement to search out the new ideas wherever they exist and rush financial support for their development to the laboratory bench. In this way promising discoveries can be brought to the public aid as rapidly as possible. CCNAC is further founded on the belief that unless the people do it themselves, cancer will never be eradicated."

The brochure then outlined its goals: "Put out an international dragnet for NEW idea to combat cancer, and rush support to the proper laboratories so evaluation of those new ideas can commence immediately.

"Eliminate the interminable delay between the making of a discovery in the laboratory and conversion to public use.

"Support research on means of preventing cancer as well as treating it—for example, by providing funds for serious investigation of the effectiveness of anti-cancer nutritional supplements.

"See to it that the bulk of money raised gets to the researcher.

He's busy playing Chinese checkers! Does he think he can't get the disease? I used to go around and ask people, 'Are you immune to the disease?'

"The second force besides the established NMR community," Damadian says, "was the cancer establishment. They didn't want this machine to happen. It might get rid of the disease. That's why we still have cancer with us. Notwithstanding Richard Nixon, who put one billion dollars into cancer each year for three years, the only thing we've got out of this expensive cancer research is that deaths from cancer keep going up."

He was sitting in a diner, finishing up a late lunch, and he twirled a ballpoint pen around his index finger as if it were a baton. "The cancer community is the worst. It would break your heart to know the truth. The vested interests in this business are decades-deep, maybe centuries-deep. The cancer industry may spend forty-five billion dollars a year. The sad truth is that more people are living from cancer than dying from it."

Damadian never managed to cultivate many sympathetic supporters at the NCI. The one man who did invest considerable energy in trying to round up money for him was Kenneth Olson. Olson worked part-time and full-time for the NIH for a number of years, starting in the early 1970s. He is now retired and lives in Florida, where I spoke with him one afternoon. Olson is a blunt, tough-talking man, fun to spend time with. Listening to him, the minutes fly. He is never too shy to express his opinions, however many feathers they may ruffle. In that respect, he is much like Damadian.

"We had a committee that reviewed grant applications," he said, "and I presented this idea of Damadian's and the committee said, 'We'll quietly bury this.' I was just infuriated. What were they doing? I said that if Roentgen walked in that

Damadian's fiddling around with. It's utterly preposterous. Get out of there and do something with your life before it's too late. The guy is a failure."

Another time, a friend of Goldsmith's who had been a graduate student in the physiology department at Downstate wrote him a letter in which he concluded, "I urge you to get out on your own and abandon all ties to Dr. Damadian."

"This was typical of the feeling around us," Goldsmith said. "It was terribly annoying. What people were telling me basically was that I was a fool for working with Damadian."

One day, Damadian was speaking on the phone to a quite reputable scientist at MIT when the man, making a mental connection, said, "Oh, now I know who you are. You're the one who's going to build a big NMR scanner that you can put a patient into. Ho, ho, ho." After Damadian insisted that he would succeed, the scientist added, "Rots of ruck."

On yet another occasion, Damadian and his wife were invited to a fair-sized dinner party in Forest Hills. A woman arrived and was introduced to Damadian by the host. She was a doctor of internal medicine, somewhere in her fifties, who treated many cancer patients at a respected New York hospital. As he invariably did when meeting someone new, Damadian began talking animatedly about his work and the machine that he felt would help slay cancer. Growing noticeably distressed, the woman interrupted Damadian and barked, "Well, that's all fine and good. But if you accomplish all that you say, then who is going to pay the tuition for my son in college?" And she walked off in a huff, leaving Damadian stunned. He was talking about saving lives and all she cared about was losing patients and income. He dismissed her as a nut. When the party was breaking up, the woman's husband went up to Damadian and said brusquely, "My wife tells me you're a fool." And, with that, he sped out the door.

Damadian, however, never wavered in his belief. There

was Indomitable. Damadian sometimes says that the story of his life is written in that machine.

Once Damadian had at last taken care of the usual mind-boggling assortment of problems—he likes to joke that FONAR is run by "crisis management"—I accompanied him in his car to Amityville and Brunswick Hospital, a large red brick tower that, at six hundred beds, is the biggest profit-making hospital in the country. "This will show you that we're actually scanning patients," Damadian said to me. "You're going to see real results."

Sitting behind the wheel, Damadian remarked, "You know, I once had a famous professor of chemistry say to me, 'It's not important to me who's right or who's wrong but that I'm on the side of the majority.' I couldn't believe it. He said this in dead earnest. I can't understand that. I've never been on the side of the majority."

He glanced out the side window, noted a semi booming past. He slipped into a minor panic, convinced that he was lost, then regained his bearings and realized that he was on a road he had traveled innumerable times. "Okay," he said. "I know where we are. We're going the right way."

Then he said, "One thing I've come to know about people and leopards is they never change their spots."

Of the players once active in the NMR imaging field, many have dispersed to new and sometimes quite remote situations. The last time I spoke with him, in 1984, Paul Lauterbur was still at Stony Brook trying to perfect better NMR techniques and working on such things as microscopic imaging and new mathematical algorithms for producing images; there were constant rumors of his taking a position elsewhere because of inadequate funds for his research. He complained that he was still saddled with the same magnets he had acquired nearly a decade ago, including the mistakenly made

higher in cancer than normal tissue? Who knows the answer to that other than me?" he said. "In a cancer cell, others explain the elevated T1 because there's more water. This is true in most diseases. But the real event that's taking place is that the water is becoming more and more disorganized and less structured in the cell, less icelike, as Cope would say."

We arrived back at the FONAR offices and sat in the conference room, on chrome-tubed, executive-style chairs. It was about ten and neither of us had eaten. Elsewhere in the company, pizza had arrived for some late owls, and Damadian, sniffing its aroma, managed to wheedle a couple of slices. He wolfed his down with big bites, then continued speaking.

Talking about motivation, he said, "I saw an old interview with Maurice Chevalier on the television the other night, and he was asked what was the one thing responsible for his success and he said honesty. That's pretty much the way I feel. You've got to be honest. Not only to others, but honest to yourself."

He was quiet for a bit and looked somewhat puzzled. "A friend of mine told me once, 'Why, Raymond, you know how to recognize a pioneer?' I asked how. 'Why, he's the guy with all the arrows in his back.'"

He paused and ran his fingers in a rapid sweep through his white hair. Nibbling on his nails, he said, "Nobody else is going to cure cancer. So I'm going to have to do it. And I will. I used to be convinced that it was beyond the capacity of one individual to do it, because the forces opposing it were too much. But I think a corporation can do it, because those forces can't crush it the way they can a single scientist. So I feel confident. I feel confident that I'm going to do it."

In the pale wash of the lighting, he talked on, animatedly, about disease and about the cell, about how whoever didn't agree with his ideas could step out of the way. The phone