CHAPTER 13

WILDCAT DAYS

Managua, Nicaragua, was one of the world's wretched places in the mid-1970s. Downtown was a ruin of rubble and weeds, having been flattened by an earthquake in 1972. That the effects of the disaster lingered so visibly bore witness to the corruption of the nation's dictator, Anastasio Somoza Debayle. It was Somoza who, as relief money poured in, channeled it into his family-owned businesses rather than redevelop the town. He left the nation's capital a blasted urban wilderness, a city with no heart.

His actions were hardly unprecedented, at least as far as his family was concerned. In the decades since his father had seized power, the Somoza family's legacy had blossomed, from a ramshackle coffee plantation to holdings valued at $500 million, including 60 percent of the nation's arable land and a controlling interest in almost every major Nicaraguan business. But now, after two generations of oppression, corruption, and egregious mismanagement, Nicaragua teetered on the brink of revolution, the residents of Managua for the most part afflicted with poverty, illiteracy, disease, and malnutrition.

In the dilapidated landscape, a few buildings stood relatively unscathed. One was the Hotel Intercontinental, a massive stepped pyramid of concrete and glass designed to invoke the grandeur of the Mayans. Around the corner stood another set of buildings, an inconspicuous trio of squat stucco structures painted a starched and hygienic white. Surrounding the compound was a high wall that could only be

entered through a heavily guarded gate. Inside usually stood a sad and ragged queue of the desperately poor who had come to sell their plasma.

The facility, Compañía Centroamericana de Plasmaféresis, was one of the few lucrative businesses in town. Owned by an exiled Cuban named Dr. Pedro Ramos Quiroz and built on property leased from the Somozas, it stood for a time as the world's largest plasmapheresis center. Nearly two hundred beds filled the facility, which engaged two dozen doctors and hundreds of other employees. At its peak, the center took plasma from up to a thousand people a day. The facility was modern and clean, and provided free meals and income to the Nicaraguans who came there. Yet many local people called it *casa de vampiros*—house of the vampires. To them it embodied the unfathomable greed of the Somoza regime: Having taken all the resources his country could offer, the dictator had now resorted to profiting from his citizens' blood.

The Nicaraguan center was one of many plasma facilities that sprang up in the Third World during the industry's wildcat period, when the boom in plasma products that had swept across America spread over most of the industrialized world. Driven by a skyrocketing appetite for albumin and the new clotting factors, demand climbed by double-digit percentages every year. Most of the products to meet this requirement came from a handful of American firms, including Armour, Cutter, and the Hyland Division of Baxter Laboratories, which obtained their raw material from American donors, whether students, prisoners, or the denizens of Skid Row. Yet even this supply had its limits, they found. Plasmapheresis, although harmless and lucrative, was the kind of activity the middle class shunned. Moreover, competition was increasing for the limited donor pool. "Good pickings in the United States had become difficult," recalled Fred Marquart, retired president of Hyland. As the market for plasma products grew internationally, the need for source plasma outstripped what American donors provided. And so, just as the oil industry had long scouted the world for new sources of petroleum, the drug firms now looked overseas as well.

There were differences, of course. Unlike the oil companies, the pharmaceutical firms never imported the majority of their material; most still came from American donors. Nor did the drug manufacturers buy from sheikhs in desert kingdoms. Instead, they turned to where the resource was most plentiful—the crowded urban slums of some of the world's poorest nations. This factor, however, eventually undermined them. No matter how much they might have paid for their plasma or how well they might have treated their donors, the

fractionators never escaped the stigma of reaping profits by bleeding the poor.

It is difficult to say when the first shipments of plasma arrived from the Third World, although FDA records show that by the beginning of the 1970s a lively trade was already under way. The first center to receive public attention was a facility in Haiti called Hemo Caribbean. Located in the most impoverished capital in the Western Hemisphere, Port-au-Prince, it was established by Joseph B. Gorinstein, a stockbroker from Miami, in association with Luckner Cambronne, Haiti's feared minister of the interior and national defense. Technicians at the center would collect plasma from hundreds of donors a day, freeze it, and ship it out via Air Haiti, of which Cambronne owned a share. They exported up to six thousand liters a month to drug firms in America, Germany, and Sweden.

The collectors paid well for donations—$3 a liter, or about three times the average daily wage—but the condition of the donors was deplorable. A pitiable assemblage, they would line up starting at six-thirty in the morning, many in rags and wearing no shoes. In a nation of stark poverty and primitive health care, many "had medical problems of their own," observed Richard Severo, the *New York Times* reporter who exposed the operation in January 1972. "The prevailing diseases include tuberculosis, tetanus, gastrointestinal diseases and malnutrition. The caloric intake of Haitians is one of the lowest in America but [according to the company's technical director] only 1 to 2 percent are rejected because they are too weak."

Gorinstein energetically defended the facility as an important source of income to donors and employees. Besides, he asserted, his plasma was "a hell of a lot cleaner than that which comes from the slums of some American cities," which, in some extreme cases, may have been true. But the exposure stung Haiti's dictator, Jean-Claude "Baby Doc" Duvalier, who had been trying to cultivate a more moderate image than that of his father. After only twenty-two months of the center's ten-year contract, he summarily closed Hemo Caribbean.

Gorinstein's failure did nothing to discourage others from collecting plasma in Latin America. The region, in fact, had become a favorite harvesting ground, with its proximity, low cost of living, and large numbers of poor and willing donors. Moreover, despite the region's rampant malnutrition, donors reportedly gave high-quality plasma because of their protein-rich bean diet—or so said the collectors. Over the years, American firms bought plasma from more than half a dozen Latin American countries including Mexico, Belize, the Dominican Republic, Costa Rica, El Salvador, Colombia, and Nicaragua. "We

were peddling so much plasma out of Costa Rica," joked Marquart, "that it must have been their second-biggest export after bananas." Meanwhile, American drug companies set up their own plasmapheresis centers along the United States' southern border so Mexicans could walk across and save them the trouble of importing the liquid.

A particular feature of this wildcat period was the wily and flamboyant entrepreneurs it attracted. One of the more successful and colorful of these people was a businessman named Delfino de la Garza, who came from a well-connected family in Mexico and lived on a beautiful estate in Costa Rica. In the late 1960s, de la Garza approached Hyland with a plan to set up a chain of plasma facilities in Central America. He flew his managers up to Los Angeles, where Hyland technicians trained them in plasma collection and hygiene, then opened a collection center in Costa Rica. "He had a donor center with eighty-five to a hundred beds," recalled Marquart. "The place was spotless, everything first-class." Soon afterward, de la Garza opened two other centers, in Guatemala and El Salvador, exporting to Hyland an estimated six thousand liters of plasma a month.

What made de la Garza memorable to his American associates was not so much his medical expertise (he had none) as his way of doing business, Central American style. De la Garza established his enterprises with a combination of connections, payoffs, and personal charm. "It was amazing, he was so smooth," said Tom Asher, a former Hyland manager and retired president of the Hemacare company in southern California. Asher recalled a time in the early 1970s when, as an independent plasma collector, he was scouting several Central American countries, conferring with local officials and businessmen, trying to make deals to establish facilities. (The arrangements, he recalled, generally involved requests for bribes.) In each case, he found that de la Garza had procured exclusive rights beforehand. Finally, Asher struck a deal in El Salvador, even though de la Garza had established a competing center there. Asher's business had been going for just under a year when "all of a sudden the minister of justice, the minister of health, and about fifteen armed soldiers marched in and said, 'Everybody out!' " Apparently, de la Garza wielded enough influence to have Asher shut down. It took Asher months to retrieve his equipment—and then only by having a crew smuggle it out in the dead of night.

Latin America was not the only place where one could buy industrial quantities of cheap plasma. Some came from Lesotho, the impoverished black homeland in South Africa, from a company called Scimitar, owned by a former blood banker named Dr. Ben G. Grobbelaar.

Grobbelaar had been one of South Africa's most prominent blood bankers, as medical director of the Natal Blood Transfusion Service, a member of the Executive Council of the International Society of Blood Transfusion, and vice-chairman of the World Federation of Hemophilia. He also established the first fractionation plant in the region. During his work in the voluntary sector, he had a change of heart. He came to believe that unpaid donation, as noble as it seemed, could never supply the world with enough plasma. His answer was to set up a for-profit plasmapheresis center in Lesotho. There he bought plasma for $5 a donation and sold it for more than five times that amount to reputable drug companies in Germany, Italy, and Spain. (Grobbelaar said he made a profit of $2 to $4 a pint after processing and shipping expenses.)

Grobbelaar's business made him a pariah in international blood-banking circles. Many former colleagues wondered how such a respected practitioner could engage in exploiting the poor. Yet to him that attitude was naïve. Volunteerism might work in Europe, because people there were relatively wealthy; they could afford to give blood and even plasma. But people in the Third World faced daily issues of basic survival, and didn't have the luxury of volunteering. Centers like his, he argued, offered a solution, harvesting plasma and providing income in areas of high unemployment. Nor did he accept the widely held allegation that businesses like his preyed on the impoverished. The $5 a donation he offered could easily double the average person's daily income. This meant that he could attract "average" citizens, as opposed to the down-and-outers who sold their plasma for relatively less money in the United States (an assumption that was not necessarily true, as we shall later see). In a letter defending his deeds and philosophy he wrote, "I find fault with the self-righteous Western Europeans. For forty years they have been selling tanks and machine guns to Africa," whereas he was exporting a lifesaving substance while paying his donors a decent living wage.

One company found it possible to import huge quantities of cheap plasma without exploiting anybody. The Institut Mérieux, a French pharmaceutical firm, imported tons of blood-rich placentas from maternity wards throughout the world. The idea had originated with Charles Mérieux, the *grand seigneur* of the company, who had set up some of the first clandestine transfusion centers in wartime France. After the war, he traveled to Edwin Cohn's lab in Boston and came away thrilled about the "industrial" use of plasma. While still in the United States, he learned of a plasma source that was both "ingenious and obvious" in the millions of placentas disposed of every year. As he

wrote in his memoirs: "From this pocket of blood that one discards after each birth, we could extract all the albumin and gamma globulin we would ever need."

Over the decades, Mérieux set up a network of contacts to ship him placentas, to be squeezed out in modified wine presses for their plasma. At the height of production, placentas at the Institut Mérieux provided four-fifths of the gamma globulin in France and 8 percent of the world's albumin supply. With material flowing in from places as distant as Russia and China, Mérieux became the world's largest importer of placentas, processing up to fifteen tons of material per day—5 percent of the placentas in the world.

Of all the plasma centers of the time, the largest and most notorious was Compañía Centroamericana de Plasmaféresis, which thrived, as we have seen, in the ruined city of Managua. Twenty-four hours a day, the poor and indigent would traipse in, selling their plasma after submitting to urine and blood tests. Technicians froze the plasma and shipped it to way stations near airports in Mexico and Miami, where it was stored in a deep freeze pending shipment to pharmaceutical companies in Europe and America.

Ramos paid the sellers 5 to 7 dollars a liter, a handsome living wage in Nicaragua, then sold it to his customers for nearly five times that amount. The markups continued down the line. Tom Hecht, retired president of Continental Pharma Cryosan in Montreal and formerly the world's largest independent plasma broker, negotiated the original arrangements between Plasmaféresis and its customers. "We shipped huge quantities of source plasma to Travenol in Belgium [a sister firm of California-based Hyland]," he recalled. "Travenol took off the cryo-precipitate—we called it 'skimming rights.' Then we sold the cryo-poor plasma to Kabi Pharmacia [a Swedish biologicals company] for further fractionation." Hecht bought the plasma for $34 a liter, selling the skimming rights to Travenol for $12 a liter and the cryo-poor remainder for $38 in Sweden. The transaction netted his company about $240,000 dollars a month. "It was the biggest deal I'd ever negotiated," he said.

Hecht's business provides a window on the movement of plasma from the Third World, almost all of which went north to American and European drug companies. Some suppliers signed long-term contracts directly with the fractionators; others sold to the free-ranging brokers like Hecht, who, traveling the world, secured plasma on the spot market and sold it to the highest bidder. Huge quantities passed through Montreal and Zurich, which, because of lax bonding and transit laws,

earned the two cities the sleazy reputation of being way stations for the international traffic in plasma.

Once the source plasma reached its destination, the drug companies mixed it into huge pools, fractionated the mixture, and sold the derivatives. Sometimes companies shipped finished products, such as gamma globulin or Factor VIII; sometimes they sold other companies the partially fractionated paste. Whatever the specifics, the effects were the same: The industry collected plasma from areas rife with poverty, malnutrition, and hepatitis, concentrated and processed the material, and sold it throughout the world.

As the developing world's largest plasma collector, the center in Managua offered benefits to many—material for the drug companies, profits for Ramos and Somoza, commissions for the middlemen, and some money for its donors. But there was also a downside, involving rumors of mistreatment and injury. In the fall of 1977, a woman from one of the barrios complained to the police that her son had disappeared. The young man, an alcoholic and a habitual donor named GRO-A, had told her he was going to sell some of his plasma, just as he had the preceding month. When she went to the center to ask about her son, other donors told her they had seen him the day before, although no one could say what had become of him. Some suggested that GRO-A might have fainted—news that must have made the poor woman shudder. GRO-A had told her that donors who fainted or died were covered with a green sheet, were taken to the basement, and "disappeared."

Such occurrences, of course, were not uncommon in Nicaragua, but this one caught the attention of reporters at *La Prensa,* the opposition newspaper in Managua. Its publisher and editor, an earthy intellectual named Pedro Joaquín Chamorro Cardenal, had been jailed by the dictator at least half a dozen times for exposing the violence and excesses of the regime. The disappearance of GRO-A and its connection to the center provided Chamorro yet another example of Somoza's villainy.

The newspaper sent a reporter to climb a nearby building to peer over the center's high and heavily guarded gates. There he observed long ragged lines of obviously unhealthy men. "Ninety percent of the donors come from the very poor classes," he wrote. "They usually are unemployed and in bad physical condition." More coverage followed. Day after day, under headlines such as "Why Are We Involved In This Bloody Business," "Information About the Dead Donors," and "PLASMAFÉRESIS MAKES THE COUNTRY SICK," the newspaper exposed a pattern of malpractice and abuse. The stories revealed how Ramos's employees bought plasma from known alcoholics, often ignoring screening tests

their American clients assumed they performed. Reporters described how guards treated the donors like inmates, cursing and hurrying them roughly along. One donor claimed he was beaten. A committee of impoverished women from the barrio wrote to *La Prensa* that selling plasma was their only alternative to prostitution. "But when the needle enters our bodies we also feel we are losing part of our lives. The people who work in this center treat us in a very inhuman way. . . . We implore the people in charge . . . to investigate this awful situation."

The donors were not the only ones to complain. Doctors at a local hospital reported that they frequently had to treat habitual plasma sellers for "profound anemia and malnutrition," thereby subsidizing Ramos's profits with publicly financed medical care. Later, a committee of medical instructors who examined former donors in area hospitals found that several of the men tested positive for syphilis.

In fairness, one should question at least some of *La Prensa*'s reports. The stories tend to be vague in their medical details. One could question whether excessive plasma removal caused the anemia that local doctors observed, since a more likely result would be protein depletion and kidney damage. Moreover, Chamorro, a long and determined foe of Somoza, never claimed to be an impartial observer. Finally, people in the industry remember the center as one they admired—well equipped and professionally run. Industry insiders invoke the fact that the U.S. Food and Drug Administration licensed the center, thus giving the facility a stamp of approval.

One must distinguish, however, between what the FDA permits and how a facility performs. To hear veterans of the industry tell it, by the mid-1970s the Skid Row–type plasma center was becoming a mere memory, as government rules tightened and the industry became increasingly fastidious. That may have been so on paper, but daily operations often told a different tale. This held true even in America, as journalists learned when they disguised themselves as indigent donors. In late 1975, for example, a British television-documentary team, tracing a hepatitis outbreak among British hemophiliacs back to the American source of the product, visited several plasmapheresis centers owned by Hyland. In every facility they observed a discouraging collection of derelicts and alcoholics, along with careless and cynical screening procedures. They brought along a British hepatitis expert named Dr. Arie Zuckerman, who, after visiting the Hyland facility in Los Angeles, described it as "an offense to human dignity," with donors whom any British physician would have "rejected straightaway." Yet, when the producers interviewed Dr. Richard Wilbur, Hyland's vice-

president for medical operations, he claimed to know nothing about those conditions, having made only one visit to any of his company's collection centers.

Perhaps Wilbur lied, hiding the fact that he and other leaders of the industry knew they were running substandard collection centers. The other possibility, equally unsettling, is that he really did not know, which would mean that industry executives did not understand the difference between what they saw in their paperwork and what took place on the ground.

If that was the case at major drug companies' facilities in America, imagine the situation in Nicaragua. No one could doubt that Plasmaféresis's employees took shortcuts, ignoring the well-being of the donors and skipping certain screening tests. Even Hecht, who made a fortune from the enterprise, remembers it with a degree of distaste. "The physical plant impressed me, but what bothered me most was the way the local management treated the people. They treated them with disdain, not like human beings." So one is inclined to believe *La Prensa*—at least in implication, if not in detail. For it is clear that this kind of center in this kind of location, with its oppressed and impoverished population, could never be anything but exploitive. That much was reflected in the treatment of the donors—the screaming, the shoving, the abuse. Chamorro labeled it a "shame on the nation," a crushing burden on his people's morale. An opposition senator likened the business to Dracula rising from his tomb "not only at nighttime, but during the day, weekends and Sundays too."

No one ever learned the fate of GRO-A But the stories continued, and the drama became ever more volatile and troubling, racing toward a violent and tragic conclusion.

In examining this period of the global plasma trade, roughly from the late 1960s to the late 1970s, it would be tempting to cast the Americans as the villains. After all, it was they who seemed to profit from an international commerce that exploited the poor. Indeed, that was what European blood bankers said at international meetings and congresses. But the realities of the plasma trade were far more complex.

In the wake of World War II, as we have seen, most industrialized nations had set up their blood systems along nonprofit lines for humanitarian and medical reasons. Indeed, in some nations, such as France, nonremuneration had become almost a religion. Later, when plasmapheresis was developed, several of these nations prohibited the practice, because it went hand in hand with the payment of donors.

Instead, the countries turned to a variety of methods to get the plasma they needed. Switzerland, for example, collected an excess of whole blood from volunteers, spun off the plasma, and threw out the red cells. Britain used plasma from outdated blood and plasma spun off from whole-blood collections. Others, like France and Germany, permitted plasmapheresis on a limited basis, allowing donors to give barely more than a quarter of the allowable American levels.

For a while, these arrangements worked well for the Europeans, allowing them to obtain the plasma they needed mainly from volunteers (except in Germany, where drug companies paid for plasmapheresis) and have the moral pleasure of condemning the Americans. But when the demand for plasma products exploded—first for albumin, later for Factor VIII—it became impossible to obtain enough volunteer plasma, and most European nations bought increasing amounts of plasma and its derivatives from the United States.

Britain, for example, found it necessary to import huge quantities of Factor VIII. Sad to say, the national volunteer-donor system that Titmuss had glorified had gradually become a "disorganized shambles," according to a prominent British critic—a collection of semi-autonomous regions that did little to help each other or share. Barely able to furnish enough whole blood, the system proved incapable of marshaling an adequate plasma supply. Beyond that, the nation's government-funded fractionation centers at Oxford and Elstree did not expand their capacities in time. Hemophilia specialists had begged the government to increase production, and the Ministry of Health had promised to take action by allocating money to update the facilities and setting goals for British plasma self-sufficiency. But they failed to meet every deadline they set. Thus, with neither the means to collect enough plasma nor the capacity to process it, Britain's Factor VIII stocks continually lagged behind demand, and the country imported more than half its supply from the United States. Similarly, France, though publicly boasting about its all-volunteer plasmapheresis program, quietly imported as much as 26 percent of its Factor VIII from America annually. Holland and Switzerland imported plasma and its derivatives. Outside Europe, Japan imported an astonishing 98 percent of its plasma products, notwithstanding the growth of Dr. Naito's Green Cross.

Thus, by the middle of the decade, America had become the OPEC of plasma. As Tom Drees, then president of the Alpha Therapeutic Corporation, later explained to a fractionators' conference, "As the U.S. feeds the world, so does the U.S. bleed for the world. Or, more correctly, the U.S. plasmaphereses itself for the rest of the world." Yet,

even as America's production capacity grew, its ability to provide the source plasma plateaued, and the drug companies increasingly purchased Third World material.

So, if one is to condemn the American companies of that period as profiteers, one must also point out the hypocrisy of others. The same American drug companies that imported most of the material from the Third World also provided—from a variety of sources, including the Third World—most of Europe's plasma. Indeed, the Americans exported enough raw plasma and processed material to account for well over half of Europe's needs. As one seller put it: "How they [the Europeans] can consider the paying of donors as being immoral, and yet import plasma from the U.S.A. knowing that [it comes] from paid donors, has always dumbfounded me."

If plasma and its derivatives flowed from the United States to Europe, money flowed in the opposite direction. This particularly applied to the profits from Factor VIII concentrate, which sold for about 11 cents a unit in America (a year's supply cost the average hemophiliac thousands of dollars) and sold for at least triple that amount in Europe, making a dazzling target for pharmaceutical firms (and keeping down prices for American hemophiliacs). American companies descended on the continent, seeking a piece of the lucrative market. They offered special premiums to high-volume customers, including equipment, lab technicians' salaries, conferences, and perks such as cruises for executives. Some companies offered direct cash rebates to hemophilia treatment centers and societies.

Nowhere was the treatment more lavish than in West Germany. The nation's Factor VIII use was truly astonishing, with the average hemophiliac using up to four times the quantities of his American counterparts. As a nation, West Germany consumed more Factor VIII than all the other European countries combined; one hospital alone spent more on Factor VIII than did the entire United States.

The man most associated with the rise in German consumption was Dr. Hans Egli, the studious, mild-mannered director of the world's largest hemophilia treatment center, the Institute for Experimental Hematology and Blood Transfusion at the University of Bonn (Institut fur Experimentell Hämatologie und Bluttransfusionwesen der Universität Bonn), or the Bonn Hemophilia Center, as it was commonly called. Egli had visited one of the originators of home hemophilia care, Dr. Shelby Dietrich, in Los Angeles, and became an eager convert. Adapting her methods, he added what he thought were a couple of improvements. Under Dietrich's direction, patients gave themselves moderate doses of Factor VIII whenever it was determined that a bleed was beginning. She

insisted they live in the Los Angeles area so she and her staff could monitor their progress. Egli, on the other hand, gave massive doses of concentrate and supervised patients who lived far from his clinic. Dietrich employed treatment on demand, in which patients would inject themselves in the event of a bleed; Egli instructed his patients to inject prophylactically—on a regular schedule, whether or not they suffered an episode. Such treatment, he felt, helped avoid joint bleeds, especially in young patients, whose joints were still growing. After starting his patients off with a two-week training session of rigorous physical therapy and pharmaceutical instruction, he would send them home to report back only a few times a year. They kept in touch by submitting detailed questionnaires and via a twenty-four-hour phone line.

He used even more radical therapy with "inhibitor" patients—those who develop antibodies in response to the injections. These people have always confounded their physicians: Their bodies destroy the one material that can help them. Dr. Hans Hermann Brackmann, Egli's nephew and the center's medical director, developed a method whereby he administered massive doses of Factor VIII in conjunction with other medications, in an effort to overwhelm the immune response. Brackmann reported that, of twenty "high responders" to Factor VIII after years of treatment, fifteen had lost the antibody response.

Egli's therapy gave hemophiliacs an unprecedented sense of independence, even more so than conventional home treatments. "At the age of sixteen I was confined to a wheelchair because of bleeding in my hip," recalled Dr. Werner Kalnins, one of Egli and Brackmann's early patients. "After two weeks of treatment, I was walking on crutches. Soon after that, I was absolutely well." Patients flocked to the Bonn clinic from distant parts of Germany, and from other countries as well. Frank Schnabel, founder of the World Federation of Hemophilia in Montreal, spent two weeks at the clinic in 1977. He marveled at the center's methods and technology, which had "brought hemophilia into the age of the computer."

> It is rather an interesting experience to be riding in Dr. Brackmann's car equipped with a sophisticated telephone system and hear a hemophiliac from Stuttgart, some 150 miles away, call regarding his treatment and the doctor, in turn, prescribes the course of treatment. The patient may only be reporting the daily improvements in his knee, in centimeters, as the swelling diminishes. Infusions continue until the joint is back to normal. Or, it may be a serious hemorrhage and the hemophiliac may find himself with insufficient AHF [Antihemophilic

> Factor] concentrates in his home care inventory. Since it may take 12 hours for a special shipment to reach the hemophiliac, the Bonn Centre checks the computer and determines the amount of Factor VIII in the homes of hemophiliacs in the adjacent region. These hemophiliacs rush . . . sufficient material to control the crisis until the shipment arrives. The visitor to the Bonn Centre will see large maps graphically presenting the logistics of this operation.

"I have seen the epicenter," Schnabel concluded, "and hemophiliacs throughout the world will certainly benefit from the waves radiating from Bonn."

Despite such enthusiasm, Egli's methods raised questions. Other physicians, such as Professor Günter Landbeck at the University of Hamburg Children's Clinic, criticized Egli's long-distance therapy, stressing the need for a "competent doctor in the locality." At a conference in Heidelberg in 1977, Professor Klaus Schimpf, director of that city's hemophilia center, insisted that his patients thrived with a fraction of Egli's doses—one had even joined a table-tennis team. Another doctor questioned whether it was wise to inject young men with "hundreds of thousands of units of a foreign substance daily, weekly for the rest of their lives."

Physicians outside Germany worried as well. In October 1977, for example, an international delegation of home-therapy experts visited the center. Impressed by what they saw, they nonetheless worried about its scientific basis, especially since Egli and company had published so little. "We all regard precise documentation of your work as of the very greatest importance," they wrote to Egli. In 1979, the Council of Europe denounced the German hemophilia centers for overusing Factor VIII. Yet the Germans seem not to have considered any limits, in quantity, cost, or the risk of hepatitis.

Egli's group defended their practice as essential, but there was a less savory aspect to his colleagues' prescribing patterns: In handling massive amounts of Factor VIII, they enriched their own center in the process.

German hemophiliacs benefited from one of the world's most liberal systems for the handicapped. Under this system, in which handicapped people have the legal right to be fully mobile, hemophiliacs received without charge all the Factor VIII they needed, not only to survive but to be mobile and pain-free. Hemophilia centers ordered whatever quantities of Factor VIII they wished and billed the insurance companies (some of which are municipally owned) for reimbursement. The patient paid nothing.

As meticulously documented in the book *Böses Blut* (Bad Blood) by German journalist Egmont Koch, Egli's group manipulated this system into paying enormous amounts to the Bonn Hemophilia Center. It purchased almost all of its material from America, where it cost only a quarter to a third as much as the German-made product. Importers billed the group at high German prices—bills that the Bonn center passed on to the state insurance companies for reimbursement. Periodically, however, the importers would give Egli's group sizable rebates, in the form of "project-related" expenses such as technicians' salaries or research grants. Although these premiums effectively lowered the price, the center did nothing to notify the state. This behavior "had no recognizable purpose other than to keep those who bear the costs from full knowledge," according to a 1981 internal briefing document at Germany's largest municipal insurance agency, AOK (Allgemeine Ortskrankenkasse). Beyond that, Egli's group took an administrative fee of up to 15 percent of whatever it paid. (This charge alone netted the center nearly $9 million annually in state-paid reimbursements.) In other words, the more Factor VIII Egli's group used and the more money it paid for it, the more profits they received. According to a report issued by the German equivalent of the Federal Trade Commission (Bundeskartellamt), "The treatment centers have an outright interest in keeping factor VIII prices up."

The cozy relationship between industry and treatment providers did not confine itself to Germany. Indeed, it seemed the norm throughout most of the advanced world. Most of the World Federation of Hemophilia's budget was paid for by the fractionation companies, who picked up the tab for its lavish annual meetings—philanthropy or bribery, depending on how you look at it. In America, the National Hemophilia Foundation received anywhere from 15 to 25 percent of its operating budget from industry, as well as special grants for educational projects. Prominent hemophilia doctors who served as the foundation's medical directors received tens of thousands of dollars annually to run clinical studies of the companies' new clotting products and conduct industry-sponsored training groups and seminars. There was nothing illegal about this; drug companies often finance research. The doctors and the hemophilia organizations argued that the relationship was appropriate and collegial, not coercive. They saw it as a mutual exchange of medicine, money, and information to help their patients get as much clotting factor as they needed at the best prices. Yet patients would later claim that the financial links between the drug companies and the doctors influenced the treatment providers to be complacent about safety.

In Germany, however, this collegiality reached unprecedented levels, and crossed the boundaries of ethics and good judgment. In the late 1970s, the Bonn Hemophilia Center started doing business with a Swiss-based supplier called Lutz and Co. The importer met with Dr. Franz Etzel, a protégé of Egli's at the Bonn center whose job it was to order materials. As part of the deal, the Lutz representative offered Bonn direct cash rebates equivalent to 26 cents a unit—a handsome amount of money, considering the quantities. Beyond that, he offered Etzel a personal kickback of 4.5 cents a unit, discreetly deposited in a numbered Swiss bank account. When Etzel arrived at the bank to countersign, he found that $135,000 had already been deposited.

The profits from this enterprise grew to enormous proportions, netting the Bonn center $15 million in industry rebates since 1975. With Bonn as a respected and influential example, the profligate use spread throughout Germany. By the end of the decade, AOK was paying $133 million annually to sustain the nation's two thousand hemophiliacs. More than 40 percent of the total went to Egli's center. Reimbursements to his individual patients were shocking, often exceeding $800,000 annually. In the extreme cases of some patients with inhibitors, costs for one person exceeded $4 million a year. Overwhelmed by the complexity of these schemes and drained by their excesses, the insurance agencies began to leak stories to the press, publicizing a local hemophiliac as "the most expensive patient in town"—which, though doing no harm to the doctors, effectively served to humiliate the victims.

Still, the late 1970s were the glory days for Egli's treatment center in Bonn. His proudest moment may well have been in the fall of 1980, during the First International Hemophilia Conference in Bonn. No expense was deemed too lavish: The entire delegation from the World Hemophilia Federation's headquarters in Montreal had been flown to Rotterdam and taken on a cruise down the Rhine River to the conference, all at the organizers' expense. Egli delivered the keynote address, proclaiming the beginning of an era that "began with fog and is ending with sunshine." Frank Schnabel testified, "Fresh hope is expanding beyond the Rhineland."

It was almost exactly a year later, in October 1981, that the newspaper *Die Zeit* broke the first of several media scandals about "a mess of enormous dimensions" that allowed Egli's institute "to practically swim in gold." Later a criminal court would sentence Dr. Etzel to prison for tax evasion and "profiteering." Still later Schnabel would face his own struggle—a futile battle against AIDS, which he contracted from any of the thousands of donors to whom he was exposed

through his use of the concentrate. For the time being, however, hope and imports both remained high.

Everyone knew that the transfer of plasma from the poor to the rich could not continue, as profitable and convenient as it may have been. Regardless of how much one paid to the donors, the practice, by its nature, was inherently exploitive—not to mention potentially unhealthy. Long before Chamorro's press crusade in Nicaragua, people in the international health field had been working to staunch the flow of "red gold," as they called it. Several years earlier, in fact, the American hepatitis activist Dr. J. Garrott Allen had raised the alarm, "not only because of my concern about the spread of hepatitis but also because of the further depletion of an already depleted population."

Reports kept surfacing about unscrupulous businessmen scouting new locations in Asia and Africa. Doctors in India said that plasma-company representatives approached them to seed businesses in several major cities. Similar stories emerged from Nigeria. In South Africa, Dr. Maurice Shapiro, the patriarch of South African blood bankers, reported that a company called Serocenter of America had approached him with an offer to establish a chain of commercial pheresis centers. The representative handed him a four-page proposal describing how each facility would provide income for the government and employment for the community, and would introduce "a new clinical pharmalogical [*sic*] industry" to South Africa. The company's real agenda appeared on the final page of the proposal: "the right to export the plasma and other such products as we shall derive without limitation."

The International Red Cross repeatedly condemned the spread of such industries among the poor. At its Inter-American Conference in Paraguay in 1974, the agency warned its members about "this new modality of exploitation of the most needy . . . a dangerous, scandalous, and unfitting traffic." That same year, the World Health Organization (WHO) sent a questionnaire about the practice to several of its poorer members. Of the twelve nations that responded, eleven said that commercial firms had approached them. Working stealthily to avoid industry interference, a committee of experts from the International Red Cross and a few other organizations assembled evidence about the trade in advance of the WHO's 1975 World Health Assembly meeting in Geneva. When they presented the information, along with an urgent resolution condemning the practice, the delegates unanimously voted to approve it.

Soon afterward the harvesters began shutting down, almost domino-style. Costa Rica had already nationalized Delfino de la Garza's plasma-

pheresis center, converting it to a nonprofit facility providing products for its citizens. (The wily de la Garza, say industry veterans, managed to sell it to an unsuspecting businessman just before Costa Ricans took it over.) Now the El Salvador and Colombia centers closed. Lesotho revoked Grobbelaar's permits; later he set up a center in Transkei, another black homeland, where he operated in a nonprofit capacity, plowing the profits into the homeland's growing transfusion infrastructure. He finally closed it and moved to Canada, with the ending of apartheid and abolition of the black homelands. Haiti, as we have seen, shut down Hemo Caribbean long before the declaration appeared.

No one has ever documented whether plasma from the Third World caused elevated hepatitis rates in the First. Too much intermingling of materials took place to determine clearly the source material's final destination. But there is no doubt about the corrosive effect that the "vampire" collectors had in poor countries, with their demoralizing and exploitive routines.

Nowhere was that clearer than in Nicaragua, where the dictator and his cronies continued to gather plasma, oblivious to the gathering political storm. The contrast between Nicaragua and the rest of the world pained editor Pedro Chamorro, and he hammered that point in a November 1977 editorial: "In Haiti plasmapheresis has been discontinued because the fat little dictator in Haiti has a bit of conscience and responsibility—that's why he listened to the WHO, Red Cross, and United Nations. Here we cannot hear those voices, because the ears that should be listening are interested in millions from Plasmaféresis. They take the money and try to silence those who defend human dignity."

Chamorro pursued the issue relentlessly. To him the center was not just a business, but a malignancy on the nation's morale. Interviewed by *The New York Times,* he denounced the business as "contributing to the disgrace of the country." Emboldened by his leadership, others took up the call. Doctors and intellectuals circulated petitions. Medical students at the Hospital San Vincente de León put up posters saying "Stop Plasmaféresis!" Public officials promised to launch probes. The inquiries, of course, proved nothing but a sham, since the business fell under Somoza's protection. Irked by the government's failure to investigate, opposition senators created their own commissions.

Seeing the whole city turning against him, Ramos clumsily attempted damage control, distributing circulars explaining the benefits of his facility and announcing a "special-help plan" of interest-free loans to his regular donors. Both tactics backfired. Doctors disparaged his letters as unprofessional, geared to mislead rather than inform, and

the loan program blew up in his face when more than two hundred donors showed up for money; screaming and cursing, he drove them away, threatening to have them beaten by the guards.

The drumbeat continued. In November 1977, Chamorro revealed that, for all the center's profits, it paid no taxes. That was because the center had been classified in "Group A"—for industries so vital that they operated tax-free. Such a decision, of course, rested with Somoza, and he saved it for enterprises in which he held a share. Chamorro attacked the arrangement as further proof of the dictator's involvement.

Ramos sued Chamorro for slander. Reporting on the trial, *La Prensa* cruelly mocked Ramos as sweaty and obese, chewing tobacco and hiding his face behind fat, grubby fingers. His suit did not succeed.

On Tuesday, January 10, 1978, Chamorro was driving through downtown Managua on his way to *La Prensa.* He drove, as usual, at a leisurely pace. Suddenly a green Toyota darted from a side street and pulled alongside him. Before he could react, three men aimed shotguns out the window and fired point-blank.

Chamorro's assassination triggered the worst riots in more than a decade. Somoza expressed shock at the murder and denied any involvement, but no one believed him. As the funeral procession bore Chamorro's casket to the cemetery, tens of thousands of people converged. Shouting "Who killed Chamorro? Somoza!" they surged through the streets, setting fire to buildings and overturning cars. Police rushed in with tear gas and clubs. A contingent of rioters broke off and surrounded the plasma center. Shouting "*Casa de vampiros!,*" they stormed it, stoned it, and burned it to the ground.

Police arrested four men for the murder. One of them alleged that Ramos had hired them. But Ramos was gone, having fled to Miami before the killing. Interviewed there, he called the charges "stupid."

Some say Somoza was responsible for the crime; others say Ramos. Certainly, the assassins must have had Somoza's approval. Somoza himself, in a self-justifying memoir called *Nicaragua Betrayed,* offers his own assessment: "Pedro Joaquín Chamorro . . . thought he was the kingpin of Managua. He honestly believed that, through *La Prensa,* he could wipe the streets clean. . . . When he directed his venom at Ramos, he chose the wrong person. . . . Chamorro didn't understand that Ramos, being Cuban, had been brought up under a different code of ethics. . . . Obviously, he was more volatile and, apparently, concluded that 'personal satisfaction' was his only recourse."

Chamarro's murder and the riots that followed marked the beginning of the end for the Somoza regime. For the next eighteen months,

the country exploded with strikes, uprisings, and rebel attacks, climaxing in Somoza's resignation and exile.

After the revolution, a jury tried Ramos *in absentia* and found him guilty of murder. Ramos had vowed to face his accusers, but he never returned. He surfaced for a while managing a plasma-for-export center in Belize, the only such center remaining in the Third World. He eventually died peacefully in Miami, where he had served the Cuban community for years. Associates described him as kind and beneficent.

The events in Nicaragua sent tremors through the plasma industry. After all, the center had provided a significant source of material to the manufacturers, and suddenly it was gone. They also realized that they had depended too heavily on outside providers. Even putting aside the risk of hepatitis, it was too much trouble to rely on volatile, impoverished nations, especially given the exploitive implications. As one dealer later put it, "You got tired of people calling you a vampire." It was all too difficult to manage and explain. And so the industry returned to using only American donors, regardless of the additional expense. For all practical purposes, the torching of Ramos's facility ended the industry's wildcat days.

Sometime later, at an office near Los Angeles, a plasma-industry market analyst presented a dispassionate assessment of the events in Managua. "A major point of reference on the Source Plasma Demand Cycle . . . occurred with the loss of the center in Nicaragua. While the quantities being imported only represented 8–10% of the total demand, a short-term shortage did occur in the market," wrote Jack Reasor, president of the Marketing Research Bureau. "Bidding for plasma was intensive. Prices were 12–15% higher than before the Nicaragua loss."