"If Machiavelli were to write his book today, he'd call it *The Lab Chief*"

—a former colleague of Dr. Robert Gallo's

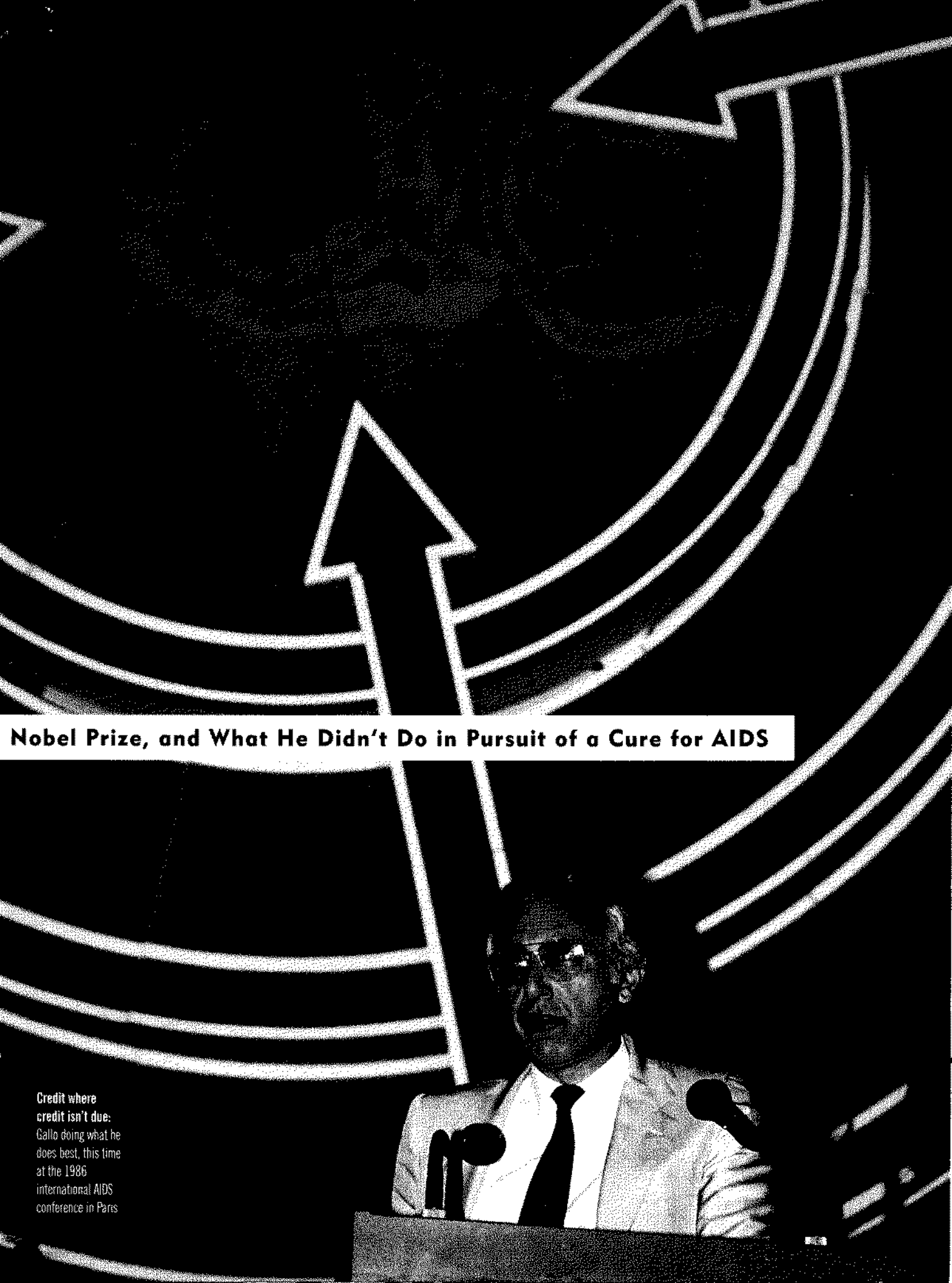
LAB RAT

What AIDS Researcher Dr. Robert Gallo Did in Pursuit of the

In Tysons Corner, Virginia, in 1985, a woman was buying a car. When she mentioned to the salesman that she was a scientist, he told her a story about a neighbor of his, a scientist as well, who had recently complained at a cocktail party that he had been cheated out of a Nobel Prize in Medicine. A few years later the same woman was chatting with a man who did landscaping for her. He happened to say that one of his clients had said he'd been cheated out of *two* Nobel Prizes. The client had won lots of other prizes, though, and each time he won one and got the prize money, he called up the landscaper and had some yard work done. The unlucky scientist in both cases was Dr. Robert Gallo, ex-discoverer of the AIDS virus. As a lab chief at the National Cancer Institute, part of the National Institutes of Health (NIH), in Bethesda, Maryland, Gallo is probably the best-known AIDS researcher in the world. He is usually called, albeit erroneously, "codiscoverer of the AIDS virus." The *Who's Who* entry he wrote for himself modestly lists only 23 of the roughly 80 prizes he has won in his 25-year career, such as the American Cancer Society's Medal of Honor, the Griffuel prize of the Association for Cancer Research, the General Motors Charles S. Mott Medal, honorary citizenship from the Italian city of Ravello and, most impressive, two Lasker Awards, the most prestigious American award in biomedical research. No one else has received two Lasker Awards, a fact Gallo himself mentions rather more often than is absolutely necessary. *People*, in one of its lazier cover stories, named Gallo one of "The Thirty Hardest Working Celebs," along with Barbara Cartland, Cyndi Lauper and Menudo. "The search for a desperately needed AIDS vaccine keeps the top medical sleuth in his laboratory... 72 hours a week," the magazine said. Last October *Newsweek* called him one of America's 25 "leading innovators." That may have been the zenith of Gallo's career arc. A month after *Newsweek*'s salute, just after Gallo had a special audience with the pope, the *Chicago Tribune* published a book-length special supplement by Pulitzer-winning reporter John Crewdson called "The Great AIDS Quest," which detailed the discovery of the AIDS virus, focusing on Gallo's role. Crewdson exhaustively investigated what many in the scientific community and the gay press had been saying for years, and his piece made it clear that Gallo's main claim to fame—his "codiscovery" of the AIDS virus—was not valid, and probably fraudulent: the virus that Gallo put forth in 1984 as the cause of AIDS was not an independent discovery but merely a copy of a virus sample sent to him nine months earlier by cooperative French scientists at the Pasteur Institute in Paris. In the three-year battle for credit and patents that followed, the French were shown to be the rightful discoverers, despite the politically maneuvered "amicable" agreement to split the credit for the discovery between the two countries. Though the *Tribune* piece provoked investigations of Gallo by the NIH and by Congress (both of which are still going on), most of the nation's newspapers chose to ignore the story. Gallo told a journalist that last

by Seth Roberts

Nobel Prize, and What He Didn't Do in Pursuit of a Cure for AIDS



Credit where credit isn't due: Gallo doing what he does best, this time at the 1986 international AIDS conference in Paris

winter someone from *The New York Times*, in a perfect expression of journalistic distance, sent him a note with the reassuring message *Don't worry, we won't pick up the* Tribune *piece.* Meanwhile, Gallo will chair a seminar and give an invitational address at this summer's Sixth International Conference on AIDS in San Francisco.

What the *Chicago Tribune* report did not emphasize is that in the midst of the AIDS epidemic, Gallo's self-interested bid for glory has had a terrible human cost: by refusing to acknowledge the significance of the French scientists' earlier discoveries, he delayed the introduction of a widely available blood test for the AIDS virus by about a year. During that year thousands of hospital patients and hemophiliacs received tainted blood from blood banks and became infected, and many of the already infected unwittingly spread the virus. And Gallo slowed down AIDS research in other ways: he made it difficult for the Centers for Disease Control (CDC) and fellow researchers to obtain necessary supplies and samples of virus, and most damaging of all, as the *Tribune* showed, he published a vast amount of incorrect data and misleading conclusions. Interviews with 40 of Gallo's colleagues and peers indicate that his egomaniacal performance did not surprise those who know him well. As a scientist who once worked in his lab puts it, Gallo was known for "this sort of unscrupulous behavior ten years before HIV [the AIDS virus] ever came along. When the stakes got higher, he was capable of doing anything. The stakes became too high."

MOST PUBLIC COMMENTS ABOUT ROBERT Gallo sound like excerpts from a particularly fulsome, over-the-top eulogy. According to Dani Bolognesi, an AIDS researcher at Duke University, he is "without doubt one of the great scientists of our time." Samuel Broder, a cancer researcher and Gallo's boss at NIH, told *The Washington Post* that Gallo has "influenced things in our lives to an incalculable degree. Einstein, Freud — I'd put him on a list like that, I really would." Flossie Wong-Staal, who recently left Gallo's lab for an endowed chair in AIDS research at the University of California at San Diego, bid up even that assessment. "First came God, then came Gallo," she told the *Los Angeles Times*.

The National Institutes of Health, where Gallo presides over a lab of some 50 scientists and a budget of $13 million, has been described by its current overseer, Secretary of Health and Human Services Louis Sullivan, as "the cutting edge of science." It has been described by past and present employees as a "den of thieves" and as being "full of mediocrities." In its quantity of intrigue and capricious purges, it resembles a "medieval Italian town," says one former employee. He adds, "I'm surprised somebody hasn't killed someone there."

Few of the NIH's thousands of scientists have anything like tenure. "You know if you don't leave in harmony with your former boss, your chances of succeeding outside are practically zero," says one scientist there, adding, "It's hard to be an honest person in this place." She knew three employees who committed suicide. But this culture of unremitting servitude is apparently not enough for Gallo, who once told a lab member that he likes to hire foreigners because if they don't do what he wants, he can deport them.

This is the world of Gallo's ascension. It is a world that encourages certain personality traits. Gallo is described as charming by many ("especially when he wanted something from you," adds one co-worker) and as crude by a few (in an elevator one day Gallo said, "Look at those knockers," and he has a penchant for making middle-of-the-night prank phone calls to his competitors). Nobody denies that he is relentlessly competitive. This part of his personality is evident "in virtually every aspect of everything he ever did," says David Gillespie, who worked in Gallo's lab for eight years — hardly an overstatement about a man who, at a lab party, was observed arguing strenuously with an eight-year-old girl over who had the better handwriting.

His shelves of awards notwithstanding, Gallo told the *Chicago Tribune*, "I'm not rewarded by my scientific peers," a state of affairs he attributes to "their own inadequacies." If the top rung of the ladder of American scientific success is the Nobel, the one just below it is membership in the National Academy of Sciences. It is a sign of the relative integrity of the National Academy that Gallo was not admitted until 1988 (six years after he won his first Lasker), and even then, only through a special nomination process. He had been rejected a half dozen times and had taken the rejections very hard. Each year, after being turned down again, he would be absent from his lab for a few days. When he returned sulkily to work, he would say, "Fifteen bastard votes short," or whatever the supposedly confidential result had been. He would attribute the result, as he attributes much of the bad news in his life, to his "enemies."

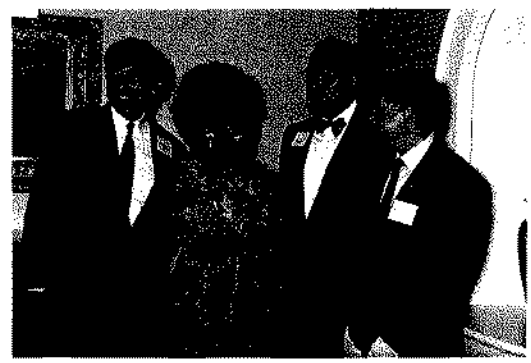
Gallo would bring the supposedly confidential Leukemia Society grant proposals back to his lab and say to his employees, *Here are their ideas—work on them*

After he became a member of the National Academy and won his second Lasker in 1986, he made no secret of the fact that there was still room on his awards shelf. As cancer researcher Peter Duesberg puts it, "It is not hard to get Gallo to talk about a Nobel Prize." It isn't a recent obsession. In 1974 Gallo tried to recruit one scientist with the line "Don't you want to be able to say you were in a lab that won a Nobel Prize?" and in 1980 he asked one scientist joining his lab, "What are you going to do to win me a Nobel Prize?"

This fixation comes up so often in Gallo's conversation that it's practically a

rhetorical device. When an NIH review committee decided against promoting Gallo's former mistress and lab employee Flossie Wong-Staal because Gallo was a coauthor on all of her papers, he called the head of the committee at home. After ranting for a while, he said, *Of course Flossie did all this molecular biology herself; if the committee really thought I did all this molecular biology, then I deserve* two *Nobel Prizes.* It was a foregone conclusion that he deserved one.

Gallo cuts few corners in his Nobel politicking. In the early 1980s his good friend George Klein, a virologist, was on the Nobel committee. At a conference that year, Gallo made sure to have dinner with Klein every night; then someone told Gallo that Klein had been replaced on the committee by the immunologist Hans Wigzell. Gallo dined with Wigzell the very next night. Last year, just before the *Tribune* piece appeared, Gallo contacted two congressional investigators looking into financial misdeeds by one of his employees. He complained about recent news stories, saying that the damage to his image might cost him a Nobel Prize.



Science fiction: at home among microphones, Gallo announcing his "discovery" of the AIDS virus in April 1984; chatting with lab associates (including, *left*, Flossie Wong-Staal); and enjoying his proximity to a momentarily slender Elizabeth Taylor, with C. Everett Koop and Luc Montagnier

A RESEARCHER IN GALLO'S LAB ONCE TOLD THE BOSS THAT EINSTEIN WAS HIS favorite scientist; he especially admired Einstein's magnanimity. Gallo replied, "You're naive. Einstein could afford to be magnanimous because he was a genius." The other scientist asked, "You mean magnanimity is good only if you're a genius?" Gallo said, "Yeah, because then you don't have to worry about the competition." Over the years, Gallo's lack of magnanimity has indicated how far from a genius he believes himself to be.

Gallo became well known at the National Cancer Institute with his claim in a 1975 report that he and his lab had discovered a retrovirus—that is, a virus that merges with the cell it infects—which he called HL-23, in human leukemia cells. It was the first virus to be associated with human cancer, and a possible first step toward finding a cure. Gallo called a special Saturday meeting of NCI bigwigs to discuss how to proceed. One man at the meeting recalls, "Gallo and I ended up at the urinal together in the men's room. And he said something like, 'All the most important virus people are here.' He said he felt he had a good chance of getting the Nobel Prize." Major labs around the country were very interested in HL-23, but when they requested samples from Gallo (it is a specific NIH guideline that such materials must be made widely available), he at least once ordered subordinates to damage the infected cells before sending them out, to make them useless for research. He justified this behavior to co-workers on the grounds that he was more frank with his competitors than they were with him. It was about this time that Richard Nixon resigned, and David Gillespie, then second-in-command at Gallo's lab, was discussing the former president with his boss. "I was saying what a lousy president Nixon was, because he put the ends ahead of the means," says Gillespie. "I said it didn't matter to Nixon how he got where he was going; as long as he got there, he felt he was justified. Gallo looked at me, and he said basically that I didn't understand the real world. He said, 'Nixon did *exactly* the right thing. It's unfortunate that he got caught.'"

Alas, Gallo's exciting HL-23 results could not be repeated, either by his lab or by others, and the phrase *human tumor virus* was replaced among scientists by *human rumor virus.* A cure for cancer was not imminent after all.

And, of course, there was no Nobel for Gallo, who remained then, as always, obsessed with his competitors. He often discussed strategy with Gillespie, and how to effectively orchestrate scientific conferences was a pet concern. "If [Gallo] could get one guy from our lab to talk before [his main competitor, Sol] Spiegelman, and somebody else to talk after Spiegelman, and then, while Spiegelman's talking, we'd have somebody ask him a question he couldn't answer—then Gallo would look good. We used to spend a huge amount of time worrying about these positioning things," Gillespie says.

Gallo did not confine his competitiveness to other big, well-funded labs. For a few years he reviewed grant proposals for the Leukemia Society of America. But each year, Gallo would bring the proposals—which, of course, were supposed to be confidential—back to Bethesda and, at a Monday-morning meeting, pass them out to the people in his lab working in related areas. *Here are their ideas,* Gallo would say. *Work on them.* ("I've never known

him to have an idea that didn't come from someone else," says a former co-worker.) Most scientists would be repelled by such underhandedness, but the people in Gallo's lab went through a process of adaptation and selection. Only the weak survived: Gallo was surrounded by yes-people.

NIH lab chiefs themselves go through a similar process of adaptation and selection, but with an emphasis on different traits. Gallo is fond of participant sports, and as someone in his lab delicately told *People*, "Gallo doesn't just like to win, he insists on winning." According to another lab member, "With something as friendly as a lab softball game, he'd be dirty—he'd kick you in the balls if he thought he was going to lose." Another employee says that when Gallo was losing at tennis, "he would start to deliberately call the lines wrong on *your* side of the net. He'd hit a ball six feet out, and he'd say, 'That isn't out, that's in.' He argues and rants and raves so long, you let him have it."

EVEN AS IT BECAME CLEARER AND CLEARER that Gallo had not discovered the AIDS virus but merely copied it from the French ("I think science always builds on the discoveries of other people, doesn't it?" Gallo told SPY), his detractors still did not completely write him off. "If he didn't discover the AIDS virus, he still discovered IL-2," they would say, or "He still discovered HTLV-1," the first known virus convincingly associated with human cancer. The AIDS virus mix-up might have been an accident, a case of laboratory contamination, wherein a virus somehow makes its way from one petri dish to another—"an honest mistake," says Beatrice Hahn, a former Gallo employee.

In the late 1970s the discovery of IL-2, a molecule important in the immune system, occurred despite Gallo's efforts to ignore it. Doris Morgan, a researcher in Gallo's lab, stumbled on a way to grow certain white blood cells. When she presented her results at a weekly lab meeting, Gallo was unimpressed. Others in the lab, however, encouraged her to keep working on it, and she continued without Gallo's knowledge. Eventually, with the help of Frank Ruscetti, a cell biologist, the growing cells were identified as T cells—key elements in the immune system. Gallo said that "growing T cells [wouldn't] lead anywhere," and he ordered Morgan and Ruscetti to stop working on that "worthless molecule." Not long after, Morgan was fired, and she remained unemployed for ten months.

After Morgan was canned, Gallo did little with her discovery. Meanwhile, Kendall Smith, a young professor at Dartmouth, started to follow up Morgan's finding. Over the next four years, the Dartmouth lab isolated IL-2, the molecule responsible for the growth that Morgan had observed, and began to determine its role in the immune system. By then Gallo had finally been forced to understand the importance of Morgan's discovery. Ever since, he has claimed credit not only for Morgan and Ruscetti's result (the long-term growth of T cells) but also for the Dartmouth discovery. In the early 1980s Gallo went to a meeting in France where he was asked, "Are you still working with Ruscetti on IL-2?" Gallo reportedly answered that Ruscetti worked for *him* and that *he*, not Ruscetti, was the brains behind the project. When he returned to Bethesda, Gallo was so angry over this imagined slight that he didn't speak to Ruscetti for months.

The official chronology of AIDS research, written in 1987 by Gallo and Luc Montagnier, his French rival at the Pasteur Institute, under firm pressure from the French and American governments, states that in 1976 Morgan, Ruscetti and Gallo "discover" IL-2. This is like saying that in 1876 Alexander Graham Bell *invents* the fax machine. When, in 1988, Kendall Smith published a paper in the prestigious journal *Science* that accurately described the discovery of IL-2, Gallo was infuriated and phoned Smith from an AIDS conference in Stockholm. "Kendall, I haven't read it, but people tell me you were not nice to me." (It is a peculiar habit of Gallo's to claim he hasn't read or seen or heard whatever he is vociferously criticizing.) Then Gallo phoned Ruscetti, to whom he had long since stopped speaking, and said, "Frank, we've got to do something about this goddamn Kendall Smith. He's screwing us." The *us* amused Ruscetti. When Gallo couldn't convince Ruscetti to write a letter of complaint to *Science*, he finally got a flunky at an affiliated lab to do it.

Doris Morgan's 1975 "accident" (her word) made it easier to determine what viruses infect T cells, and ultimately led to the discovery of HTLV-1. Gallo's lab had been looking for such viruses without success for years when Bernie Poiesz arrived in 1978 for a postdoctoral fellowship. Within months, with Ruscetti's help, Poiesz found a retrovirus in a patient with lymphoma, a kind of T-cell cancer. It was the first cancer retrovirus isolated from a human. Poiesz and Ruscetti co-wrote a paper reporting their results. When it was nearly finished, Gallo called Ruscetti and said he had a few revisions he wanted to make. Ruscetti said he would get Poiesz and be right over. Gallo said, "No, come alone." When Ruscetti arrived, Gallo said, "You know, Frank, the person in the lab who did the work doesn't always have to be first author." Ruscetti took the conventional view that the person who did most of the work, who had most of the creative input—in this case, Poiesz—should be first author (that is, his name should come first in the byline). Gallo said, "Frank, with an attitude like that you'll never get ahead in life." Ruscetti stood firm; Poiesz was first author.

HTLV-1 was, however, a solution without a problem; it was not at all obvious

When Frank Ruscetti, a key researcher, asked why he was being fired, Gallo replied, "Well, because you're getting too much credit"

Nobel Savages

With the exception of Jean-Paul Sartre, maybe, everyone would love to win a Nobel Prize. But what does it take? By stipulating that awards should go only "to those who, during the preceding year, shall have conferred the greatest benefit on mankind," demolitions tycoon Alfred Nobel in 1901 staked out award-giving's moral high ground: recipients are rewarded not merely for brilliance but for character as well. Yet as any junior-high-science-fair veteran knows, the smartest, nicest kids with the worthiest, most ingenious projects don't always win; sometimes the guy whose father helps him build the cool-looking model or the one with the slickest oral presentation bears out the mumbly whiz kid. While self-nomination disqualifies you for a Nobel, the rules say nothing about a little self-promotion. For example:

Anthony Burgess: A recent work of the hugely talented author of *A Clockwork Orange* concerned nuclear war and peace. Critic George Steiner has described him as one who has "written toward Stockholm."

Dr. Hector DeLuca: Despite the fact that his research on how vitamin D works in the human body was shown to be fraudulent, he is known for boasting to colleagues that the Nobel Prize for Medicine will one day be his.

Dr. Robert Gale: A man with abundant talents in both medicine and hustle, he made an ostentatious beeline for the Soviet Union after the Chernobyl accident. While he saved a number of lives, he also found time for a little unembarrassed self-promotion—such as jogging in front of news cameras every day—in an effort, it seemed, to make himself a Peace Prize contender.

Armand Hammer: The lifelong sycophant-to-the-Soviets and admitted felon maintains a file of nominating letters and is a perennial Peace Prize candidate. "If [a Nobel] can be bought," former National Security Council head Zbigniew Brzezinski has observed, "his chances of winning are quite high."

Rev. Jesse Jackson: Longs for Martin Luther King Jr.'s stature. His jack-in-the-box appearances at the crisis of the week may plausibly be interpreted as efforts, in part, to position himself as a 1990s Peace Prize winner.

Richard Nixon: In 1973, White House schemer H. R. Haldeman started a letter-writing campaign to support Nixon for the Peace Prize—the Vietnam peace accord was the pretext. Nixon played down his campaign when word leaked that Haldeman was behind it, and the president was further humiliated when the prize was split between Henry Kissinger and North Vietnamese Politburo member Le Duc Tho.

Ronald Reagan: It is widely believed that he expected to share the Peace Prize in 1988 with Mikhail Gorbachev for his work on the Intermediate Range Nuclear Forces (INF) Treaty. When he was passed over, a former Reagan aide said, "Nancy must be wearing black."

Elie Wiesel: Observers believe that simply in order to shut him up, the committee gave in to Wiesel's perpetual, unsubtle campaign (which involved friends' asking congressmen to write letters of nomination for him) and awarded him the Peace Prize in 1986.

—*Michael Hatzey*

that the virus had caused the lymphoma. The question of what the virus did was solved by a group of Japanese scientists who were trying to find the cause of an outbreak of a rare form of leukemia in southern Japan. Working independently, they isolated the same virus as Poiesz and Ruscetti and determined that it was the cause of the leukemia. Learning that a retrovirus could cause a disease in humans made it much easier to recognize that AIDS was caused by a retrovirus.

The discovery of HTLV-1 by Gallo's lab is, so far, the most important *real* achievement of Gallo's career. He provided the goal—to find a virus that caused some sort of human cancer, at a time when such a theory was unpopular—and the means with which the virus was found. Poiesz compares the discovery of HTLV-1 to the Celtics' winning an NBA championship: Poiesz was like Larry Bird, actually taking the shots; Ruscetti was like the coach; and Gallo was like the general manager. Yet in the decade that followed, Gallo, who has not done any lab work for years, received almost all the credit. For instance, the Lasker prize committee, with the plantation mentality typical of scientific-award givers, gave Gallo alone a prize for the discovery. And although it was the Japanese, not Gallo, who first associated the virus with cancer, Gallo wrote to a colleague who had asked for an HTLV-1 reading list that "much of the additional work, most of it from Japan, is really not terribly relevant."

All the credit was not enough for Gallo. He also expended enormous energy to corner the market on all future related discoveries. After Poiesz's fellowship in Gallo's lab ended, Poiesz went on to a job at the State University of New York Medical Center in Syracuse. There he applied for a grant to do further research on HTLV-1. Gallo was one of the reviewers of the grant and, in his review, implied that Poiesz wasn't competent to do research on HTLV-1—*the retrovirus Poiesz himself had discovered*. Poiesz phoned Gallo and, in a brief conversation, threatened legal action; Gallo then wrote a new, positive review. Ruscetti fared much worse. Gallo fired him and then worked to prevent him from getting another job. When Ruscetti asked why he was being fired, Gallo replied, "Well, because you're getting too much credit." Last year Gallo told the *Chicago Tribune*, "I tend to be competi-

tive. I hope to God I don't hurt anybody."

I hope to God I don't hurt anybody. Although someone pivotal in the discovery of IL-2 and HTLV-1 should have been very employable, Ruscetti was unable to get a job. Gallo would write Ruscetti positive letters of recommendation but then, apparently, bad-mouth him over the phone. Many job possibilities fell through. Six months after firing Ruscetti, and days after killing his most recent job offer, Gallo rehired him—because, he told Ruscetti, he felt sorry for him. He then gave Ruscetti nothing to do. "Gallo wanted to bury him, as far as I can see," says one recipient of Gallo's calls. "He didn't want him to surface ever again." (Asked by SPY simply to comment on Ruscetti's career, Gallo got defensive. "I never intervened to harm Frank Ruscetti. I've never, ever been asked about Frank Ruscetti. Maybe his first boss asked me—I'm not sure.") One former co-worker, asked about Gallo's scorched-earth policy, says, "His budget is enormous, and the number of people he has is enormous, and the number of people he collaborates with is enormous, so the fear of one person's leaving the lab and starting competition is ludicrous. Why he would waste such time worrying about it is beyond rational understanding. But he does."

THE APPEARANCE OF AIDS RELEASED Gallo upon the world. "There are few people more important to the immediate future of the public health," wrote David Remnick of Gallo in *The Washington Post* AIDS. Winning the prize was not the same as helping the people.

It was in many ways a good thing that when the AIDS epidemic began, there was at least one experienced, hyperambitious, aggressive retrovirologist ready to search for the cause. Gallo was, from a competitive standpoint, in a terrific position: his lab knew better than any other American lab how to isolate retroviruses from humans, and it had far more money than any other lab in the field. "We were the best human retrovirology lab on earth," says Gallo. It is a testament to Gallo's managerial and scientific ability that with all these advantages he finished no better than third in the race to find the AIDS virus.

Although Gallo is known as the father of human retrovirology, it apparently took a suggestion in 1982 from another scientist, Arthur Levine, according to the *Chicago Tribune*, before he began to consider that AIDS might be caused by a retrovirus. He soon proposed that AIDS was caused by HTLV-1, the leukemia-causing virus to which he had affixed his name. It was an absurd, self-serving idea—a "puerile speculation," according to Joseph Sonnabend, a prominent AIDS researcher, and an idea even Gallo now calls "stupid"—not only because the cancer caused by HTLV-1 (too many T cells) is the opposite of AIDS (too few T cells) but also because there was no detectable AIDS in Japan, where the HTLV-1 virus infected at least a million people. Gallo's reaction to this objection was that, well, maybe the Japanese responded differently to the virus. Amazingly, the scientific community bought Gallo's line. Though Sonnabend found no HTLV-1 in AIDS patients, in 1983 he could not get a paper published reporting this result. Gallo, meanwhile, claimed that he *had* detected HTLV-1 in cells from an AIDS patient. Another AIDS researcher, who had been working with homosexual patients, had been trying to do the same thing without success, and he wondered whether the discrepancy between his results and Gallo's was due to a difference in the risk group studied. *Was your patient a Haitian?* he asked Gallo. *A hemophiliac?* "It was a fucking fag," said Gallo.

It was Francoise Barré, Jean-Claude Chermann and Luc Montagnier of the Pasteur Institute who actually first isolated the AIDS virus. When the group sent a paper to *Science* in April 1983 describing their early results—isolation of the virus from one patient with swollen lymph glands—Gallo, who reviewed the paper for *Science* before publication, added a sentence to the introduction. It stated that the French virus "appears to be a member of the human T-cell leukemia virus (HTLV) family." The main text of the paper said no such thing.

Because the French had isolated the virus from only one patient, it was still not clear that the virus caused the disease, and other scientists continued to search for other causes. Jim Mullins, a young biologist at Harvard, working with cells

In the 1980s Gallo's collaborations with not-very-distinguished AIDS researchers from Sweden—land of Nobel—became a joke among other scientists

in 1987, and it may have been true. After a long, more or less dormant period during which he terrorized people only in his immediate vicinity, Gallo could now work his special mischief on a wide scale. He was influential for two simple reasons: (a) there were many sick people, and (b) it was automatically understood that a Nobel Prize was at stake, to be won by the person who found the cause of or developed a vaccine for or found a cure for

he had got from the CDC, had found considerable evidence for an AIDS-associated virus. When Mullins mentioned his results at a CDC meeting in July 1983, Gallo exploded at him, complaining nonsensically that Mullins had gone behind his back. *You ingrate! You only have your grant because of me*, screamed Gallo during a 45-minute public rant. Mullins says, "[Gallo] thought I might have found the virus." The CDC, fearing Gallo's wrath, stopped sending Mullins the cells he needed, thereby delaying his research for many months. Commenting on his tantrum, Gallo floats the explanation that somehow Mullins prevented *him* from getting supplies. "I was disturbed that we weren't getting any donor-matched blood samples," he says, adding, "This is the truth; that is true; that's the way it is; that is true."

The same summer Gallo raged at Mullins for his progress, Gallo's lab requested a sample of the virus the French had discovered. When it arrived, researchers tested it and established that it was not HTLV-1, Gallo's pet virus. The turning point in the search for the cause of AIDS came a couple of months later, at a scientific meeting at Cold Spring Harbor Laboratory on Long Island. Montagnier presented more results: he showed conclusively that the French virus and HTLV-1 were not closely related, and he provided more evidence that the French virus did indeed cause AIDS. Though one eminent scientist told Montagnier, "You've probably got it," Gallo was bitterly critical of the French hypothesis during the question period after the talk, saying that there was "no way it could be true." Without Gallo's support most of the scientific community was not convinced by the French results.

In spite of his public skepticism, Gallo was in fact terribly worried that the French had beaten him. Moreover, the case for Gallo's HTLV was looking worse and worse. His lab requested another sample of the French virus. A friend of Francoise Barré's asked a scientist in Gallo's lab whether they should go ahead and send it. The scientist was not reassuring: "You're absolutely crazy. He'll steal you blind." But they sent it anyway. "[Montagnier] really thought Gallo was a great scientist and would help him," says a former Gallo employee. Once the French virus arrived, Gallo's lab got it to grow. With the knowledge thus gained, according to one source, the Gallo researchers were able to isolate other examples of the same type of virus from AIDS patients. But the French virus grew best—and it was the French virus that Gallo's lab used for their research. Gallo's lab notes, obtained by the *Chicago Tribune*, show that the French virus was renamed a couple of times, apparently to hide the fact that it was being used. Gallo later claimed that the French virus didn't grow. In February 1984, Jean-Claude Chermann asked Mikulas Popovic, Gallo's chief virologist, what had happened to the samples of virus that had been sent. "I cannot speak," Popovic replied. "Only the boss can speak."

[illegible] Room 6A09
National Cancer Institute
[illegible] Institutes of Health
Bethesda, MD 20892

Dear Bob

I have reviewed in considerable detail the public record setting forth the history of the discovery and characterization of the virus causing AIDS. This record unequivocally sets out the fine cooperative efforts between you and the National Cancer Institute on the one hand, and Luc Montagnier and the Pasteur Institute on the other.

Unfortunately, I realize that a number of my comments concerning the work leading to the discovery of HTLV-III/LAV, including those made while an employee of the Center for Disease Control, those to Randy Shilts for his book And the Band Played On, others at a recent meeting of Health and Hospital Administrators in Atlanta, those to Mr. Crewdson of the Chicago Tribune, and again more recently some to Mr. Blow of Regardie are incorrect and were made without full knowledge on my part.

Accordingly, I wish to set the record straight as to my understanding of your work. First, I do not believe that your original isolates of HTLV-III were contaminated, either accidentally or on purpose, by LAV. There is no evidence whatsoever to support the notion that HTLV-III was differed in this fashion. I am fully aware that you described 48 separate, distinct isolates in your first paper, not one. In addition, you reported in the same series of papers the first continuous and mass production of six of the 48 isolates, which represented the major technical breakthrough in the field. Many of these isolates were proven to be quite distinct from the one from the Pasteur. Second, it is gross distortion to attribute the discovery of the AIDS virus solely to the French. Dr. Montagnier's 1983 paper, though obviously a critical paper, did not prove the etiology of the disease and is simply a part of the overall joint effort which isolated HIV and linked it conclusively to the cause of AIDS. The Chronology of AIDS research, published in the April 1987 Nature by you and Montagnier, makes clear the vital discoveries made by you, Dr. Montagnier, and your colleagues in the search for the AIDS virus.

First by, I wish to apologize for the tone of many of my remarks in the past. They have done you, your colleagues and the international scientific collaboration against AIDS an unwarranted disservice. NIH and the Pasteur Institute have worked to clear the air and I wish to join with others, like the scientists whose Correspondence appeared in the March 1987 Nature, to congratulate you in your work, and to urge you to continue to devote your fullest efforts in the fight against AIDS.

Sincerely yours,

Donald P. Francis, M.D., D.Sc

Pen pal: *above*, the fake fan letter—written *by* Gallo *to* Gallo—that he tried to make AIDS researcher Don Francis sign; *left*, the doctor working out some excess hypercompetitiveness at volleyball

In February 1985, *Science* published four papers from Gallo's lab, the four papers on which Gallo's celebrity as an AIDS hero mainly rests. "Getting one paper in *Science* is a lot," Gallo crowed. "Getting two is fantastic. Getting three is a record. We had four at one time." The first paper reported the isolation of a so-called new virus from AIDS patients. Deliberate or not, this was viral plagiarism: Gallo's lab had simply copied the French virus. The second paper declared that the new virus had been "isolated from a total of 48 subjects," a finding that would go far toward proving that the virus caused the disease. This was wishful thinking: examination of the lab notes by the *Chicago Tribune* found no trace of these 48 isolates. Not until the spring of 1985—a year later—did Gallo ship to other labs any viruses besides the one he had copied from the French. The main conclusion of the third paper was that the new virus was "a true member of the HTLV family" and thus connected with Gallo's previous work. A proud would-be father, Gallo named it HTLV-3B. But this too was wishful thinking: in 1986 a nomenclature committee, of which Gallo was a member, decided that the AIDS virus was no more closely related to members of the HTLV family than to any other retrovirus. Gallo refused to sign the committee's final report and for a full year, like a pouty child, refused to adopt the new name (HIV) it chose for the virus.

Gallo's final, triumphant 1984 *Science* paper described a blood test for the virus. Although the French team had come up with a clearly superior test four months earlier, the Gallo test was nevertheless patented in the U.S. and was eventually used to screen millions of pints of blood, earning Gallo personally hundreds of thousands of dollars. The similarities between the French test and the Gallo test led to a lengthy multimillion-dollar legal battle that helped delay the test's availability.

Just before the publication of the *Science* papers, then-secretary of Health and Human Services Margaret Heckler held a press conference starring Gallo. She proclaimed, "Today we add a new miracle to the long honor roll of American medicine and science"—a bit of puffery not quite consistent with Gallo's current claim that he and Heckler gave the French "full credit."

Lab notes obtained by the *Tribune* show that by the time of the press conference, Gallo's lab knew his virus and the French virus were not different viruses. Soon after this Gallo began saying he had isolated the HIV virus as early as November 1982—six months before the French announced their results—"but couldn't analyze [it] in a way I would have wanted my name attached to." There is no data to support this claim. Though Gallo tried to prevent other researchers from comparing the two viruses (even telling one scientist he didn't "have the right" to compare them), the comparisons were eventually made anyway. The first was

published in 1985. It showed that independent virus samples differed by roughly 10 percent but that the Gallo virus and the French virus differed by only 2 percent. Gallo said the similarity might be because "the individuals from whom these isolates were derived acquired the virus at a similar time and place," which made about as much sense as two students' saying that maybe their term papers were identical because they had studied together.

But Gallo had the press in his pocket. Even after Joseph Sonnabend pointed out the suspicious similarity between Gallo's virus and the French virus at a New York AIDS press conference in 1985, journalists continued to call Gallo codiscoverer of the AIDS virus. To this day, Gallo feels that "the high-level press has been very intelligent" about him.

Despite the "intelligence" of the press, the story that Gallo's virus was just a knockoff of the French virus began slowly to spread. And Gallo, naturally, tried to suppress it. His curious relationship with Michael Koch, a Swedish epidemiologist, shows just how wacky and manic his modus operandi had become. Gallo first met Koch, who was working on a book about AIDS, in 1983, and when Gallo learned that Koch was from Sweden—land of Nobel—he suddenly became very friendly (around this time, Gallo's curiously chummy collaborations with not-very-distinguished Swedish AIDS researchers became a joke among other scientists). However, when Gallo figured out that Koch had taken the side of the French and that his forthcoming book (*AIDS: From Molecule to Pandemic*) was not going to toe the Gallo line, he phoned a number of Koch's acquaintances all over Europe. What he told them can be summed up by his description of Koch to a German newspaper—"that fucking idiot." When Koch wrote Gallo, informing him that someone had taped one of his nasty phone calls, Gallo called all of Koch's acquaintances back in a frenzy—what a phone bill!—to tell them to disregard what he had said earlier. But his memory was faulty, and apparently he ended up calling some people whom he hadn't called before.

Koch's book appeared in Swedish in 1985. At a 1987 meeting in Geneva, after a long, strangely friendly conversation with Koch, Gallo suddenly changed tacks. In the manner of a James Bond villain, he took an envelope from his pocket and told Koch, "Here I have a five-step program to destroy you." Then he put the envelope away and added that neither of them would gain anything by fighting. Even after this odd bit of theater, the following year Gallo, worried about the English translation of Koch's book, convinced Robert Windom, assistant secretary for Health, and Ronald Robertson, general counsel for the Department of Health and Human Services, to write a threatening letter to Koch's publisher in West Germany.

The truth about his "discovery" of the AIDS virus reached a wider American audience with the publication in 1987 of Randy Shilts's book, *And the Band Played On*. Though this exposé of Gallo received little play, Gallo reacted by shifting into his familiar ballistic-telephoning mode. He blasted Shilts to anyone who would listen, with the curious charge that Shilts had not interviewed him. In truth, Shilts had not only interviewed him but had done so on tape. (Gallo, of course, said he hadn't read the book.) When a *Time* magazine fact checker working on a review of the Shilts book called the NIH, a press spokesman there said, "Yeah, everybody here believes [Gallo] stole the virus."

Gallo decided that a prominent AIDS researcher at the CDC named Don Francis was responsible for Shilts's unflattering portrait. In 1988 Francis received from Gallo a letter, written by and addressed to Gallo, affirming that Gallo was the discoverer of the AIDS virus. It was complete except for the signature—Don Francis's name was typed in at the bottom [see page 77]. Gallo gave Francis 48 hours to sign it. After 24 hours with no response, Gallo phoned Francis and, when he learned that the researcher wouldn't sign, "went bananas," says Francis.

A man who has been called a four-year-old by his peers, Gallo is a master of the ad hominem attack. When asked by *Spin* magazine about Peter Duesberg, a virologist who disagrees with him about whether HIV causes AIDS, Gallo said, "[Duesberg] comes to meetings with guys with leather jackets and the hair and so on in the middle. I mean that's a little bit odd. Doesn't it speak of something funny?" In private, Gallo said that Duesberg objected to his ideas only because Duesberg was gay and/or mentally disturbed—descriptions Gallo has applied to many people he fears or dislikes.

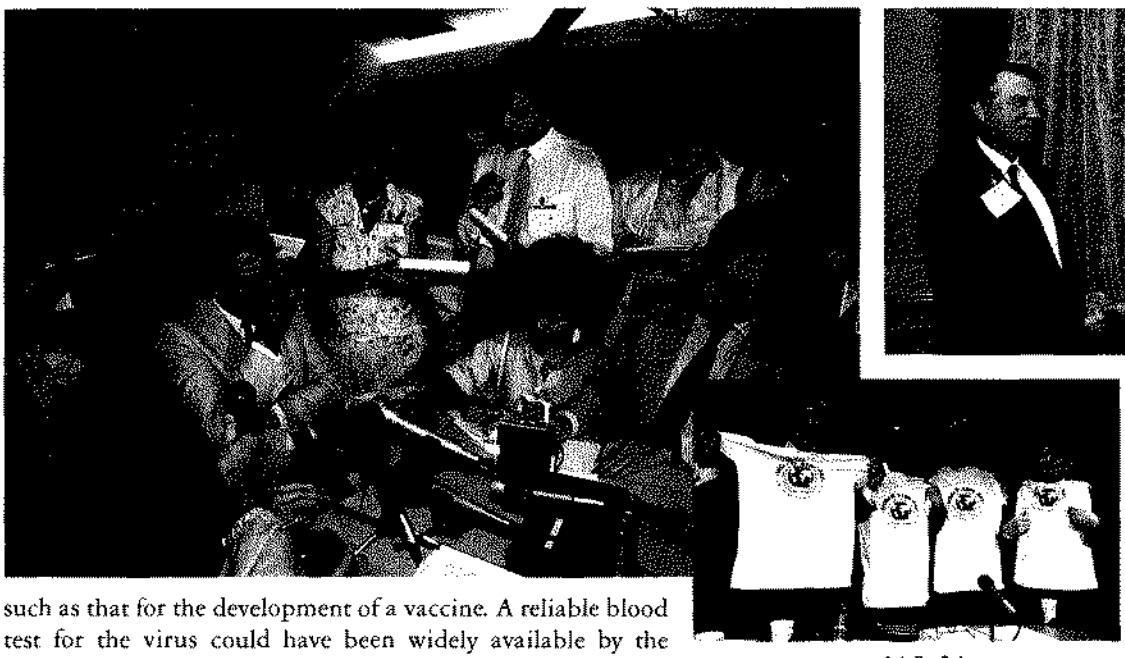
In the manner of a James Bond villain, Gallo took an envelope from his pocket and said to a dissenting scientist, "Here I have a five-step program to destroy you"

True to his school-yard-bully persona, Gallo does not just pick on people his own size. Last spring the great man gave a lecture at the University of California at Davis. After the usual Gallo presentation, an undergraduate asked a mildly critical question. Gallo's incisive reply: "You think you know more than I do?" Another student wanted to know how much AIDS virus was in the brains of AIDS patients. "A lot," said Gallo. The questioner wondered what *a lot* meant—what percentage of the cells were infected? Gallo's reply: "Do you know what lymphadenopathy is? Can you pronounce it?"

WITHOUT AIDS, GALLO WOULD HAVE BEEN SIMPLY ANOTHER GRASPING, OVERproductive, underscrupulous scientist. Dozens of awards, hundreds of papers,

thousands of tantrums, a vast phone bill, a ringside seat at the discoveries of IL-2 and HTLV-1, and a handful of derailed careers—that would have been the Gallo legacy. AIDS, however, gave him the chance to really make a difference.

When Gallo heard Luc Montagnier tell the 1983 Cold Spring Harbor conference about his detection of the AIDS virus in a wide range of AIDS patients, he could easily have decided to work with the French rather than against them. It would have taken no special effort for him to return to Bethesda, confirm the French results, publish a quick confirmation in the esteemed British publication *Nature* and put his weight behind the French conclusions. Although he would have lost the race to find the virus, he could have won later races, such as that for the development of a vaccine. A reliable blood test for the virus could have been widely available by the summer of 1984.



Ask Dr. Science: Gallo undergoing some unaccustomed scrutiny at a 1986 AIDS conference; making like a politician with a WORLD AIDS DAY T-shirt; gripping and grinning with his archrival Luc Montagnier two years after their pseudo-friendly agreement to share scientific credit

But as one AIDS researcher says, "Gallo wants to lay first claim on every discovery in the field." When he heard Montagnier's Cold Spring Harbor talk, his lab was not even close to finding the correct virus—something the French had done seven months earlier—and any frank, remotely honest person would have conceded defeat. Not Gallo. As Gallo told SPY, the Cold Spring Harbor news sparked his "competitive instincts." During the squabble for credit that followed, the world was treated to what one researcher calls "an international pissing contest." Because of the delay in Gallo's announcement and the confusion it caused (were the French and American viruses the same or different?), the blood test—the inferior American version—didn't reach the blood banks until the summer of 1985. This is what British virologist Abraham Karpas refers to as "the lost year." During that year thousands of people who received transfusions became infected with HIV and many of them are now dying or dead.

THE NOVEMBER 1989 PUBLICATION OF JOHN CREWDSON'S REMARKABLE "THE Great AIDS Quest" in the *Chicago Tribune* was a milestone in Gallo studies, though the average reader probably had trouble picking out all the threads of Gallo's wrongdoing from among the 50,000 words of scientific detail. But biologists understood it, and they began to see what those in Gallo's lab already knew—that "he would do whatever it takes," as one of them put it. While Crewdson was reporting the article, Gallo complained to his editor a number of times about the writer, accusing Crewdson—who has won a Pulitzer prize and written two well-regarded books—of being a journalistic hit man hired by Gallo's enemies.

Demonstrating a Gallo-like willingness to acknowledge important disclosures, the *Times* mentioned the *Tribune* piece only in a media-beat article called "Do Special Sections Overwhelm Readers?," which noted in its first sentence that "it has become almost a fad" to publish special sections, later described as "boring," "distracting" and "heavily influenced by hopes of winning journalism awards." By then, the *Tribune* piece had prompted two investigations.

Although Gallo, true to form, told a reporter that he hadn't read Crewdson's piece and didn't intend to, he professed to be pleased by it. "I am glad to have the article," he told *Spin*. "It is very interesting, most amusing, and not very serious, although very detailed." In private, however, his response was not so blithe. He phoned Larry Kramer, a founder of ACT-UP, and told him that the *Tribune* article had rendered him emotionally incapable of conducting more research on AIDS.

With the announcement in February that the NIH had asked the National Academy of Sciences to help assemble a group of scientists to investigate Gallo—an announcement that went unreported in the *Times*—the last act of Gallo's career has apparently begun. The size and eminence of the panel are unprecedented and show how seriously senior NIH officials take Crewdson's charges, charges that Gallo told SPY he considers "almost anti-American." After the probes were announced, Gallo issued the standard statement: "I have done nothing wrong, and I have no apprehension or anxiety about the review." As Thorstein Veblen was fond of saying, the reason for the denial was the need for it. ◗