

THE RICHEST FOUNDATION

By Joel Brinkley

DR. DONALD S. FREDRICKSON settled into a heavy leather chair in Yale University's Corporation Room, the school's decorous inner sanctum where the trustees meet and visitors are seldom allowed. Around the polished walnut conference table, two dozen Yale faculty members, trustees and administrators sat watching him, waiting, bitterness lingering in a few.

During the last several years, Dr. Fredrickson's organization, the Howard Hughes Medical Institute, created by the secretive billionaire in 1953, had not exactly endeared itself to Yale. Founded as a philanthropy for biomedical research, the institute's first three decades had been uninspired at best, its image inextricably linked to its founder's reputation for secrecy, insanity and intrigue.

H.H.M.I. had run a small immunology laboratory in the Yale medical school for the last nine years, and the faculty had grown to resent it. Some loathed it. The lab was "a private preserve," as Leon E. Rosenberg, the dean of the medical school, put it, an island of luxury amid the rundown university labs surrounding it. These privileged Hughes investigators, whose salaries were paid by H.H.M.I., not by Yale, were aloof. Officially members of the Yale faculty, some of the investigators "didn't even have faculty identification cards," according to Dr. Rosenberg. To make matters worse, some at Yale believed that several of the elusive Hughes employees were less talented than the medical school's regular researchers, who worked in cramped, ill-equipped and under-endowed laboratories nearby.

Created as a tax dodge, today the Howard Hughes Medical Institute, with a recent windfall of \$5.2 billion, is potentially the most powerful force in biomedical research.

Despite the sniping, Yale and Hughes were considering a new joint venture, a \$30 million Center for Molecular Medicine. Dr. Fredrickson was certain that, given H.H.M.I.'s negative reputation, money alone would not smooth the institute's relationship with Yale. And so he requested the September 1985 meeting, to convince everyone that under his leadership the Howard Hughes Medical Institute had changed.

After the president of Yale, A. Bartlett Giamatti, introduced him, Dr. Fredrickson spoke of the responsibilities great charities have to society, of how the institute had been reborn and of how in its new incarnation the "ambivalence and anxiety" that had characterized H.H.M.I.'s relationship with Yale would evaporate. Together, Hughes and Yale could make astounding breakthroughs for medicine.

After the first minutes, his audience was rapt. And when Donald Fredrickson finished his talk, the Yale officers realized they were no longer dealing with the inconsequential and insolent little organization that Howard Hughes had founded more than 30 years ago. Soon, as Dr. Fredrickson had so eloquently explained, they would be partners with the wealthiest philanthropic organization on earth.

IT STARTED life as a fraud. "The counterfeit charity," one biographer of Howard Hughes called it. "An outrageous parody," said another. Howard Hughes had established the Howard Hughes Medical Institute with public proclamations that it would pour millions of dollars into medical research. But in fact, the institute was a tax dodge. During its first full year, H.H.M.I. spent less than

Dr. Donald Fredrickson, president of the Howard Hughes Medical Institute, in front of a painting of Howard Hughes at the Scientific Conference Center in Coconut Grove, Fla.

\$45,000 on research. By the end of 1963, 10 years of charitable donations had totaled less than \$5 million, and expenditures rose only incrementally in the following decades.

But in 1985, nine years after Howard Hughes's death, under pressure from the Internal Revenue Service, the institute found itself with little choice but to sell its wholly owned asset, Hughes Aircraft Company. General Motors was the highest bidder. When all the checks were signed and the securities transferred last Dec. 20, the medical institute, which had actually come into existence with a multimillion dollar debt to Howard Hughes, acquired a \$5.2 billion endowment, more than \$1 billion larger than the endowment of the Ford Foundation, until then the world's largest charity.

At almost the same moment, the institute was taken from Hughes's minions and, because of a court judgment on the Hughes estate, turned over to a new board of directors and, through them, to the world of medicine. "All these odd things happened wholly uncoordinated, unplanned," says Dr. George W. Thorn, the former president of H.H.M.I., now the chairman of its board of trustees and a professor emeritus at the Harvard University Medical School. "And now it's just unbelievable. It's all turned around."

Today, those who know the institute's inglorious past shake their heads in disbelief when they realize it has suddenly become potentially the most powerful private force in medical research on earth. Says Dr. Samuel O. Thier, president of the National Academy of Science's Institute of Medicine and formerly chairman of the Yale medical school's department of internal medicine: "If you want to make a difference in biomedical research, that's certainly the place to be." Adds Dr. James B. Wyngaarden, director of the National Institutes of Health: "There are a number of things Hughes can do that we just can't do. With their new assets, they are in a position to be a very powerful force."

The recent transformation of H.H.M.I.'s reputation at Yale is just one example of the new view of the institute among leaders in medical research, who also credit Dr. Fredrickson with changing the charity's image. Dr. Fredrickson, former head of the National Institutes of Health, is H.H.M.I.'s master. Almost single-handedly, he has set Hughes's new course. Dr. Leon Rosenberg of Yale echoes the words of medical scientists nationwide when he says: "Dr. Fredrickson has done a rather startling thing since he took that organization over. He's turned it around."

This year, Hughes will spend more than \$180 million on medical research, 10 times its expenditures of just five years ago, 100 times more than the institute spent in 1973. At a minimum, the institute says it will disburse \$1 billion between now and 1990, and the budget may exceed \$300 million each year after that. Hughes is spending \$21 million to build new genetics and molecular biology laboratories at Rockefeller University. At Harvard, Hughes is spending \$23 million on new genetics labs. Similar new facilities also will go up at the University of California at Los Angeles and at Yale.

Already Hughes has 22 research institutes at the nation's premier medical schools and hospitals, employing 300 scientists in the fields of genetics, immunology, metabolic regulation and the neurosciences. While the Federal Government's National Institutes of Health, the world's largest medical research organization, spreads its money over almost every conceivable area of medical research, the revamped Hughes institute intends to concentrate its resources in these four "hot areas where we can make a difference," says Dr. Fredrickson.

There lies the power and potential of the new Howard Hughes Medical Institute — power that has traditionally resided with the National Institutes of Health. N.I.H. subsidizes the vast majority of medical research in the United States. But its grants are comparatively small, of shorter duration, and spread out over an enormous medical ter-

rain. What's more, N.I.H. fellows "have to justify their work at very short intervals," concedes Dr. James Wyngaarden, the director of N.I.H. "The tendency is to take fewer risks."

H.H.M.I., on the other hand, can "identify the most talented people in the world, give them the resources and let them do great things," according to Irving Shapiro, a trustee. The National Institutes will always subsidize more people. But if it succeeds, Hughes will have the best minds.

IT WASN'T A sense of altruism or social responsibility that prompted Howard Hughes to form a medical institute 32 years ago. It was to get out of trouble with the Defense Department.

In 1953, the Air Force, the Internal Revenue Service and Howard Hughes's own employees all threatened him at once, jeopardizing the survival of the Hughes Tool Company, then his principal industrial enterprise and an important maker of aircraft parts for the Pentagon.

Hughes loathed paying taxes, and for 17 consecutive years he had allegedly found ways to pay no personal income taxes at all. At the same time, he refused to let his executives and scientists make any important corporate decisions, then failed to make the decisions himself. That left Hughes Tool paralyzed, with its senior staff threatening to resign en masse.

Alarmed by the internal crisis at one of the military's major contractors, Air Force Secretary Harold E. Talbot flew to California in September 1953 to meet with Hughes. "You've made a hell of a mess of a great property," he told Hughes, and threatened to cancel the company's defense contracts. Hughes pleaded for a second chance. He was given 90 days to straighten out the problem.

On Dec. 17, 1953, the 90th day, Howard Hughes filed papers in Delaware to form two new enterprises: Hughes Aircraft Company and the Howard Hughes Medical Institute. He extracted the aircraft division from Hughes Tool and gave it to Hughes Aircraft. Next, he gave all of Hughes Aircraft's stock to the Howard Hughes Medical Institute. Finally, he made himself the institute's sole trustee.

Many of the troublesome employees were left behind at Hughes Tool, and the others now worked not for Howard Hughes but for a charity dedicated, its charter said, to research "for the benefit of mankind." Hughes's employees calmed down. The Air Force, apparently satisfied that the new arrangement would allow its contract work to proceed unimpeded, backed off. And the transactions gave Howard Hughes millions of dollars in tax deductions. In addition, Hughes, always concerned about his image, scored a public relations coup. The press release announcing the new medical institute (which Hughes wrote himself) said "the famed flyer and industrialist" had planned the institute

The institute intends to concentrate on four 'hot areas' of medical research: genetics, immunology, metabolic regulation and the neurosciences.

"for years," and through it would "provide millions of dollars for medical research."

The reality belied the promise. By Hughes's design, the institute started life with no direct endowment; instead, it had an \$18 million debt. With complicated lease and debt-repayment arrangements between Hughes Tool, Hughes Aircraft and H.H.M.I., the institute during its first 10 years would have to pay back to the tool company — in essence, to Howard Hughes — most of the money it got from its property, Hughes Aircraft.

H.H.M.I.'s first years were inauspicious. Hughes, according to Dr. George Thorn, who served as H.H.M.I.'s part-time president while also working at Harvard, "really had no concept of what he wanted, just a big building with scientists in it, surrounded by a golf course, tennis courts and a pool. He had no ideas about immunology or cardiology or anything. He never showed an interest in any particular disease."

The institute was placed in Miami. As medical director, Hughes appointed Dr. Verne R. Mason, a Hollywood, Calif., internist who, according to numerous published accounts, kept him supplied with narcotics. Kenneth E. Wright, a college stu-

dent who had met Dr. Mason while working nights as a doorman at his hotel, became administrator.

The institute's records of its first executive meetings show that its early days were ignoble at best. Twelve Hughes fellows were appointed and granted up to \$9,000 a year, and Hughes authorized the institute to buy two Chevrolets and a Buick.

It did not take the Government long to catch on to Hughes's scam. In 1955, the I.R.S. ruled that the medical institute was "merely a device for siphoning off otherwise taxable income." But in 1957, less than three months after Hughes gave Vice President Richard Nixon's brother Donald an interest-free \$205,000 loan, the I.R.S. declared H.H.M.I. a tax-exempt charity, reversing its earlier ruling for no apparent reason. The "Hughes loan scandal" became an issue in the closing days of the 1960 Presidential campaign but no action was taken against Hughes.

The records are blank from 1955 to 1968. "We just didn't write anything down," says Kenneth Wright. For its first two decades, H.H.M.I. languished, somnolent and secretive, its expenditures minimal, its impact on medical research negligible. Dr. Thorn, along with the other physicians he chose as advisers, decided on their own how to spend H.H.M.I.'s meager income, paying small cash grants to a few dozen investigators selected on the recommendations of colleagues and friends.

To Howard Hughes, the foundation was a pawn. In the late 1960's, he tried — unsuccessfully — to have his tax-exempt medical charity underwrite his tool company's losses. In 1968, after moving to Las Vegas, he attempted to end nuclear testing under the Nevada desert by scheming "to move my huge medical foundation here to Las Vegas without a moment's delay," if the testing was stopped. It wasn't.

Throughout all this, Hughes increasingly withdrew from the world, moving secretly from hotel suite to hotel suite. After the mid-1950's, no one at the institute ever heard from him again.

IN 1976, HOWARD HUGHES DIED. THE institute's medical advisory board was meeting at H.H.M.I. headquarters in Miami when an employee interrupted them with the news. "There was no great sentiment expressed," Dr. Lloyd Smith, a board member, recalls. "Nobody knew Hughes. He was just a name."

For a while, the lack of a valid Hughes will and the revelations about how poorly Hughes had managed his companies made it look as if H.H.M.I. might not get a dime. But the bulk of the Howard Hughes fortune was in the Hughes Aircraft Co., and Hughes Aircraft did not belong to Howard Hughes. It was the property of the Howard Hughes Medical Institute. And Hughes, the institute's sole trustee, had refused to designate a successor. Thus, who-

Typical of the institute's transformation is its new presence at Yale. The school and Hughes have agreed to establish a \$30 million Center for Molecular Medicine.

ever won control of H.H.M.I. would control Howard Hughes's billions.

By default, the disposition of the Hughes Aircraft Company wound up in Wilmington, Del., where it was incorporated, on a desk in Delaware's Chancery Court. In 1983, the case of H.H.M.I., Hughes Aircraft and the Hughes fortune fell into the hands of Delaware's chief deputy attorney general, Bartholomew J. Dalton, a 30-year-old graduate of the University of Tulsa Law School who had spent a good part of his career in the attorney general's sex crimes division.

Dalton asked the court to allow his office to appoint new trustees to fill the position left vacant by Hughes's death. The institute argued that it should choose the new board itself. In January 1984, Grover C. Brown, the judge, ruled that the attorney general could choose half the new board, the medical institute the other half, and the new board would then select a ninth man.

For days Dalton sat at his metal desk poring over published lists of the nation's wealthiest and most influential people, looking for men and women "not intimidated by large sums of money," he says. The board of directors finally assembled included a

longtime Hughes employee and one of the billionaire's relatives, as well as such luminaries as University of Chicago president Hanna H. Gray; Irving S. Shapiro, the former chairman of Du Pont, and Dr. Donald S. Fredrickson.

DONALD FREDRICKSON had first become involved with the institute a year earlier, when its future was in the hands of the Delaware judge, at the request of Chester C. Davis, a longtime personal adviser to Howard Hughes and an H.H.M.I. director. Davis, in fact, had asked Dr. Fredrickson to become the charity's president.

It's no wonder Davis wanted Donald Fredrickson as president. Dr. Fredrickson, then 58, was a distinguished researcher; he had done pioneering investigations of the lipo proteins, and with associates he discovered three of the eight major proteins that make fats soluble in the blood. He had also spent six years as the director of the National Institutes of Health, one of the most powerful positions in the medical world, resigning soon

after the Reagan Administration took office.

Given H.H.M.I.'s reputation, Dr. Fredrickson was ambivalent about the offer of the presidency. But he agreed to work for the institute part time, as a consultant. One of his assignments was to design the position of H.H.M.I.'s president. The institute had never had a president who worked full time.

After Howard Hughes's death, H.H.M.I. slowly increased its expenditures. When the case of Hughes Aircraft went to the Delaware court, spending accelerated, from \$18 million in 1981 to \$39.5 million in 1982 to \$56 million the following year. The institute's officer's hoped the added spending would help sway the judge who was pondering H.H.M.I.'s fate. Dr. Fredrickson helped decide how Hughes would spend the money, selecting new investigators only after rigorous searches for talented medical researchers, and ending 30 years of reliance on the prevailing old-boys' network.

By the time the new board of trustees met for the first time in May 1984, recalls Dr. Fredrickson, "I was ready to accept" the presidency. His turnaround was not surprising. The office he had designed for himself turned out to be an extraordinarily powerful position, potentially more powerful than his post at the National Institutes of Health had been. Although the N.I.H.'s annual budget is 10 times larger than H.H.M.I.'s is likely ever to be, N.I.H. is a huge Government bureaucracy, and as its director Dr. Fredrickson had been frustrated by "too much earmarking by Congress of how the money was spent."

But now, almost by himself, Dr. Fredrickson could decide how to disburse tens of millions of dollars. Tax laws require not-for-profit medical research organizations to spend the equivalent of 3.5 percent of their endowment annually. In the case of H.H.M.I., that means at least \$180 million a year. But under his leadership, Dr. Fredrickson

knew that the figure would grow; soon, the institute would be spending \$200 million, \$300 million a year, maybe more. As head of H.H.M.I., he understood that he would be "the chief architect for a system, a fantastic new medical research system unique in the world." Dr. Fredrickson and his colleagues now had, in the words of the H.H.M.I. medical advisory board chairman Dr. Lloyd H. Smith, "an awesome responsibility."

Almost as soon as he became president, Dr. Fredrickson and the other trustees decided "there was going to be a complete reformation," he recalls. H.H.M.I. was "not a trustee's plaything. We were going to be very, very public."

The changes at Hughes were immediately apparent to the foundation's beneficiaries. Until 1984, according to Dr. William W. Chin, an investigator at the H.H.M.I. genetics lab at Harvard's Brigham and Women's Hospital, "you really got a sense of the Howard Hughes legacy here, because the organization was so flighty." But now, he says without equivocation, "They are in a position to attract the world's best."

TYPICAL OF H.H.M.I.'s transformation is the institute's new presence at Yale. When Yale first broached its proposed Center for Molecular Medicine to the Hughes Institute in May 1984, some of the faculty saw that a change was under way. After years of dealing with Hughes officers whose secretive behavior reflected the old Howard Hughes Medical Institute, they were startled to see Dr. Fredrickson himself show up for a meeting over breakfast.

Dr. Fredrickson charmed the Yale delegation. "Right away it was crystal clear that Don was in charge," recalls Dr. Samuel Thier, then chairman of Yale's department of internal medicine. That morning the two sides agreed to keep talking.

Through the summer of 1985, Yale and H.H.M.I. negotiated, and it was unclear who was more eager. Yale needed a partner; Hughes, with its pending infusion of capital, had to spend \$180 million by the end of the year to avoid running afoul of the I.R.S. The institute's officers repeatedly promised that the new Hughes was not going to be anything like the old. But Dr. Fredrickson could see that those promises were not

enough, and so he requested the unusual meeting in the Yale Corporation Room last September to give the university his personal pledge that H.H.M.I. had changed. A day after the conclave, the Yale trustees met in the same room and voted to proceed with the project. At about the same time, H.H.M.I.'s board of trustees voted its approval. Now, without regret, Yale and the new Hughes Institute are firmly committed to each other.

While many of H.H.M.I.'s new projects involve building labs like the one at Yale, the institute's main thrust is in basic research. There is, for example, Dr. Eric R. Kandel's work with sea snails at Columbia University.

Medical research officials nationwide agree that the neurosciences are "primed for explosive growth," as the N.I.H. director Dr. James Wyngaarden puts it. Nevertheless, the field is greatly underfunded. "I don't think we're likely to put a lot more money into it," adds Dr. Wyngaarden.

Three years ago, Hughes chose the neurosciences as its fourth major area of research. Breakthroughs in the neurosciences could lead to cures for a wide range of illnesses, including multiple sclerosis and Alzheimer's disease. In addition, a more sophisticated understanding of how the brain works could also transform psychiatry, by giving it a clearer physical basis.

"What we really know about the brain is abysmal," says Dr. Kandel, a psychiatrist and neurobiologist at the Columbia University Medical School and one of H.H.M.I.'s senior neuroscientists. "It's time to completely change the nature of psychiatry, to open the box and figure out exactly how the neurocircuitry works." Right now, he says, "This kind of work is being done almost exclusively by Hughes."

The principle of Dr. Kandel's research is that all mental functions and problems involve identifiable chemical changes in the brain cells. Dr. Kandel and his colleagues induce sea snails to react to a stimulus, such as a tiny electrical shock, then study individual brain cells, laid out in petri dishes, to see how they have been transformed.

He acknowledges that "we have a long way to go" before physicians can allay memory loss, neurotic illnesses or other problems by countering chemical changes in the

brain. But he believes he is more likely to achieve breakthroughs now that he is associated with Hughes instead of N.I.H. because, he says, "under N.I.H. I would have worried about how likely I was to get support if didn't get results in one or two years. Hughes takes the longer view and lets me take more of a chance, rather than doing predictable things just to get results."

ALTHOUGH IT seems clear that H.H.M.I. has reformed, it still may have to pay for its past. Internal Revenue Service agents are poring over the institute's records with vengeful looks.

"We get such a hard road from the I.R.S.," says the board chairman George Thorn. "It's a political thing. They thought nothing good about Hughes, and then there was that business with Nixon." Still today, "there's no question that in the Treasury Department, the name Howard Hughes brings a charged reaction," says Dr. Fredrickson.

The I.R.S. is auditing the institute's books from 1971 through 1984, and "the theoretical sum we could owe can make your hair turn white," says the trustee Irving Shapiro. Hughes's officers say they hope the I.R.S. will be lenient because H.H.M.I. has changed its ways.

But an I.R.S. official, speaking privately, calls that view naïve. "The 'good work' argument just doesn't cut it," he says. Nevertheless, he acknowledges that tax regulations will probably prevent the agency from ordering a fine so extreme that it could damage the Hughes endowment.

Even as I.R.S. agents root through H.H.M.I.'s records, Dr. Fredrickson talks to suitors, who troop to the institute's offices in Bethesda, Md., just outside Washington, almost on a daily basis.

A year ago, "I was hearing mostly from the medical school deans," says Dr. Fredrickson. "Then the school presidents started coming. And now they've started bringing along their trustees," many of them major corporate officers. In December, the Governor of South Carolina, Richard W. Riley, came by, looking for money for the University of South Carolina medical school.

Dr. Fredrickson talks to all of them. His reasoning, he says, is simple: "We're a public trust now." ■