

## Case 26

# Howard Hughes Medical Institute

1953

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*Background.* In 1925, the young Howard Hughes stipulated—in his newly written will—that his burgeoning fortune be used, upon the event of his death, to create an institution of medical research. A man of bold vision, Hughes demanded that this new institution would explore “the genesis of life itself.”<sup>401</sup> In fact, the Howard Hughes Medical Institute (HHMI) was chartered in December 1953, some twenty-three years before Mr. Hughes’ death.

But it was not until 1984 that the Institute began to realize its full potential. In that year, the Delaware Court of Chancery appointed to its Board eight “prominent citizens”<sup>402</sup> who soon began to guide the Institute through a period of tremendous expansion. In 1985, the trustees sold off the Hughes Aircraft Company, which had been owned entirely by the Institute. This sale provided HHMI with its sizeable present endowment. Along the way, the trustees reaffirmed the Institute’s status as a medical research organization (MRO) under § 170(b) of the Internal Revenue Code.<sup>403</sup> So technically, the Howard Hughes Medical Institute is *not* a private foundation. In practice, however, it functions effectively as both an operating foundation and a private foundation, making grants and running programs of its own design. It is, therefore, an instructive case of scientific philanthropy on a massive scale. Like a foundation, the Howard Hughes Medical Institute is a stronghold of American polyarchy, striving, in accordance with its donor’s provisions and the best judgment of its trustees, to advance human understanding and redefine the boundaries of human possibility.

*Strategy.* The Howard Hughes Medical Institute has today an endowment of over \$12.8 billion, making it one of the largest pools of philanthropic capital in the world. It supports an enormous range of activities, primarily in the fields of genetics, immunology, cell biology, and neurobiology, but also in the sciences more broadly. These activities can be divided into three programs.

- **HHMI Investigators:** The Institute has on its payroll over 300 HHMI investigators. These are scientists on the Institute’s payroll, working at HHMI laboratories around the country while also serving as faculty members at 64 different universities and other research institutions. Each investigator is supported by a team of roughly 10–25 students, postdoctoral associates, and technicians. Investigators are given, by the Institute, the freedom to explore problems thoroughly, see projects through without the need to keep re-applying for grant support, and, when necessary, change directions and try something new. HHMI investigators are nominated by their home institutions and then selected in a nationwide competition for their “potential to make significant contributions to science.”
- **Grants Program:** The Institute’s Grants Program seeks to “[strengthen] science education and training, from elementary school through graduate and medical school.”<sup>404</sup> To that end, HHMI makes research grants to individual scientists and science education grants to academic institutions at all levels.
- **Janelia Farm Research Campus:** HHMI is in the midst of spending a projected \$500 million to build and outfit a new research facility where top scientists in a variety of fields will come together, for periods ranging from a few weeks to several years, to tackle a range of scientific questions. The institute plans to focus research at the 281-acre, state-of-the-art facility on the Potomac River near Leesburg, Virginia, on two primary areas: the “identification of general principles that govern how information is processed by neuronal circuits,” and the

“development of imaging technologies and computational methods for image analysis.”<sup>405</sup> twenty to thirty such small teams will work in a “highly collaborative, interdisciplinary culture” at the Janelia Farm campus. Each will be led by a distinguished group leader, and both leaders and group members will be chosen from the fields of biology, chemistry, engineering, mathematics, physics, and computer science. In planning the Janelia Farm Research Campus, HHMI planners studied other for-profit and academic labs around the world that have been especially successful, such as AT&T’s Bell Laboratories. One goal of Janelia is for the scientists who study there to go out, after their time at the campus, and serve as ambassadors, disseminating its cutting edge innovations among the wider research communities of their respective fields.

*Outcomes.* With an operating budget projected in 2005 to be \$564 million,<sup>406</sup> the Howard Hughes Medical Institute is an enormous presence in the fields of biomedical research and science education. Among its investigators—past and present—are thirteen Nobel Prize winners, including Thomas R. Cech, a 1989 laureate in Chemistry, who now serves as the Institute’s president. These investigators are at the top of their fields, and their relationships with HHMI not only provide them with the resources to do groundbreaking research, but also free their respective universities from the need to pay them while they are HHMI Investigators. The Institute’s Grants Program has, since 1988, given out over \$1.5 billion for research and education.<sup>407</sup> Among its many interesting activities has been a project identifying excellent teachers and paying them to teach other professors to be better educators.

*Impact.* HHMI Investigators and grantees have achieved many important breakthroughs. These include such discoveries as the genes responsible for cystic fibrosis and muscular dystrophy, a non-invasive test for colon cancer, a new drug to fight leukemia, and many others.<sup>408</sup> And the Janelia Farm Research Campus promises to house and foster some of the most exciting research of the coming years. As one of the world’s largest philanthropies, the Howard Hughes Medical Institute is breaking new ground, literally and figuratively, in its quest to “probe the genesis of life itself.”

## Notes

401. Available from <http://www.hhmi.org>.

402. Ibid.

403. Ibid. In fact, the MRO exception to the 1969 Tax Reform Act had been included by Congress primarily to enable HHMI to retain full ownership of the Hughes Aircraft Company.

404. Ibid.

405. Ibid.

406. Ibid.

407. Ibid.

408. Ibid.