**The Whitehead Institute for Biomedical Research: MIT’s $100 Million Gamble**

“It’s easier to make $100 million than to give it away,” said Edwin C. “Jack” Whitehead in 1984, after his tumultuous experience trying to establish a biomedical research institute.[[1]](#footnote-1)

Jack Whitehead was a very rich man. He had amassed his fortune in a biomedical company called “Technicon” that was founded in 1939 by Jack and his father. The company specialized in innovating, designing, and manufacturing laboratory medical devices. He was known to be a cutthroat businessman who fought tooth and nail to ensure his company’s success.[[2]](#footnote-2) Over the next forty years he built up the company until he sold it for nearly $400 million to Revlon in 1980.[[3]](#footnote-3) By this point in his life, Whitehead was worth billions of dollars and was one of the wealthiest men in the United States.

Although known for his tactical style of business, Whitehead also had a fierce commitment to philanthropy. He was intensely interested in the front-end of biomedical research and wanted to create in academia what his company had done for industry: innovation, applied biology, and engineering.[[4]](#footnote-4) In other words, Whitehead was bored with where Technicon was currently. Technicon had become a moneymaking behemoth of a company and Jack Whitehead wanted to get back to his roots of tinkering around and developing new biomedical devices. So begins the story of how it took Jack Whitehead almost ten years to give away over $100 million.

Whitehead had a vision for an institution that would be privately endowed and operate independently, but would still hold an association with a university. [[5]](#footnote-5) He believed that this type of privately funded institute would allow a team of researchers to work on the most pressing questions in biology without being burdened by outside forces often associated with work in academia. He reflected in 1992 saying: “Since I had earned the money from advances in medicine, I wanted to create a premiere biomedical research institution with the resources necessary to produce the finest research possible, all while sheltering it from outside forces that might compromise its research efforts.”[[6]](#footnote-6)

Whitehead had big dreams for his future research institute so he wanted it to be associated with a leading research university so that he would have access to some of the top researchers in the world. In July 1973, he announced his search for the perfect school to join him in creating this institute.[[7]](#footnote-7) Whitehead also had a strict vision for what the institute would become, which meant his idea (and therefore his money) came with many special conditions. He insisted that the institution be founded as a company and that the Whitehead Institute, *not* the university it was associated with, would own the company. This would allow Jack Whitehead to remain in control of the company and thereby in control of the research institute.

It soon became apparent that no university wanted anything to do with Jack Whitehead and his money. Most gifts to universities at this time were given with a request or a desire to fill a need on the campus. The gift giver usually left the logistics and everything else in the hands of the university. Jack Whitehead was not playing into these social norms. He wanted to build a research institute and he wanted it to be associated with a university, the latter seeming like almost an afterthought. For these reasons, every school that Whitehead approached with an offer of money declined him. It was too risky, he was not simply offering money and asking the school to use it to fund a research institution: he was offering money and *telling* the school that the research institution would still be under his control. Whitehead feared the bureaucratic constraints typical of universities.[[8]](#footnote-8) Academic institutions feared a lack of control, they did not want to be at the whim of an industrial man. The needs of the two clashed and so, much to Whitehead’s disappointment, no university leapt at the opportunity to take his money.

Whitehead, however, was a persuasive businessman and $100 million is hard for any school to flat out decline. So, a year after he announced his quest to create a research institute, he announced his partnership with Duke University.[[9]](#footnote-9) Whitehead had a grandiose vision for Duke: four research buildings, 100 staff members, purpose-oriented research in several human diseases, and a goal to find definitive solutions.[[10]](#footnote-10)

Whitehead’s cutthroat attitude and abrasive personality quickly tarnished Duke’s vision of the institute, and for reasons still unclear the deal fell apart. It was described as a disaster by Whitehead’s close friends and Whitehead refused to discuss the debacle up until his death in 1992.[[11]](#footnote-11) After nearly three years of negotiations Duke cut off the deal. They had slowly realized that this research institute would be of little benefit to Duke but would provide Whitehead and *his* institute valuable access to Duke’s personnel and facilities.[[12]](#footnote-12) A close participant of the negotiation is quoted as saying “things got to a very advanced stage before I realized Mr. Whitehead wanted to control the institute personally and even dictate some of the science that would go on.”[[13]](#footnote-13) Whitehead’s need to be in control had once again pushed away a promising partner. No university wanted to impair their academic freedom and force their professors to study particular topics. The participant later said: “some of his ideas were good, but the concept of being subject to a single individual’s whim put me off.”[[14]](#footnote-14)

Five years had passed since Whitehead had begun his initial search and he was on the brink of giving up entirely. One of his close advisers, however, had a better idea. Instead of searching for a university to work with, perhaps they should instead find a lead administrator: someone in academia. With the aid of this person they could work together to find the perfect place to host Whitehead’s research institute.[[15]](#footnote-15) The advisor pointed Jack Whitehead in the direction of David Baltimore.

David Baltimore was a young MIT Department of Biology professor and recent Nobel Laureate, with a strong history of turning down administrative proposals.[[16]](#footnote-16) Baltimore preferred doing science to taking charge and he had turned down several offers to chair departments or head universities. He wanted to do science, not fundraise and deal with petty politics.[[17]](#footnote-17)

Skeptical but running out of options, Whitehead contacted Baltimore in August 1980.[[18]](#footnote-18) Surprisingly, Baltimore saw eye to eye with Whitehead: he understood the vision that Whitehead wanted to bring to life in his biomedical research institute.

When the two sat down for lunch to discuss founding a research institute, Baltimore was able to answer Whitehead’s hounding questions outright. What would Baltimore do with a research institute if he had one? Focus on molecular aspects of development. Whitehead found that he liked Baltimore: he had the charisma, energy, and confidence to be a director of the institute that Whitehead envisioned. More importantly to Whitehead, however, Baltimore was well rounded and “broad gauged” and was a rising leader in biology.[[19]](#footnote-19) Whitehead had high hopes that by partnering with Baltimore he would soon be able to find a location for his innovative research institution.

Just a few days later Whitehead approached Baltimore with an unbelievable offer. If Baltimore would agree to design and establish the institute, Whitehead would cover the cost. Pure opportunity in the form of $35 million for the building and an endowment of $100 million.

Baltimore was excited: he was confident that he could maintain his own lab and direct the Whitehead Institute.[[20]](#footnote-20) He wasn’t worried that this administrative job would take away from doing what he loved: laboratory research.

He was also skeptical. Whitehead’s previous attempts at establishing research institutions were well documented. Before Baltimore could agree to become the director of the Whitehead Institute he stipulated that he needed more information from Whitehead: where the institute would be located, what the focus of the institute would be, and what university the institute would be associated with.[[21]](#footnote-21) Baltimore wanted to avoid the same situation that happened at Duke, he didn’t want to sign on to a project with unreasonable special conditions stipulated by Whitehead.

Baltimore set out with a mission: he wanted to help Whitehead find the perfect university that the institute should be affiliated with. Baltimore wanted a research community, one that was successful and innovative. He explained his goal:

“It was a consciously very simple, conservative goal. I wasn’t out to do something brand new; although, it turned out to be brand new, but that wasn’t what I was out to do. I just wanted to do very good science along the lines that I saw science developing in the next ten years. I wanted to get people who were going to be important to the next ten years of science. And the developmental biology rubric was I the air. It was just going to happen. Everybody knew it.”[[22]](#footnote-22)

He didn’t have to look far, he ultimately decided that MIT would be the perfect place to establish this cutting edge research institution. MIT, to Baltimore, was a down-to-earth, honest university that was capable of supporting a new kind of research institution.[[23]](#footnote-23) MIT was had become a mecca for biological research, the Center for Cancer Research was founded in 1972 and many new and talented faces in biology were being drawn to MIT: Robert Weinberg, David Housman, Nancy Hopkins, and Philip Sharp to name a few.[[24]](#footnote-24) Baltimore had grown comfortable with MIT, he liked the quality of research that occurred there and he was happy with the direction that MIT was continuing in. MIT was also in a prime location: Cambridge and Boston were on the forefront of biomedical research. An ordinance had passed in 1977 allowing recombinant DNA dependent research to continue in Cambridge, and Massachusetts General Hospital just across the river had signed many multimillion dollar contracts with leading chemical companies to conduct research.[[25]](#footnote-25)[[26]](#footnote-26) Cambridge and Boston, with the aid of MIT, were rapidly becoming the best places in the world to conduct biomedical research.

Baltimore was convinced that MIT was the perfect place to establish such an innovative institution. Pleased with the promise of the Whitehead Institute and the MIT and Cambridge communities, Baltimore proposed the idea to the faculty of MIT.

Despite Baltimore’s assurances of the promise of the future Whitehead Institute, MIT was skeptical and the proposal was met with strong resistance from the MIT faculty. Something like this had never been done before and they didn’t know how it was going to unfold.[[27]](#footnote-27) Where would the Whitehead Institute’s loyalties fall at the end of the day? Would the Whitehead Institute be open to commercial influence? Would the Whitehead Institute’s faculty be the same caliber as MIT?

Baltimore struggled for almost a year to convince MIT and the MIT faculty that the Whitehead Institute was a future worth pursuing. He later remarked that “when the Whitehead family volunteered $35 million to fund the institution, the response [from MIT] was not joy but suspicion.”[[28]](#footnote-28) It was well documented that Whitehead had been very controlling when he tried to establish an institute at Duke. David Baltimore had prior prejudices to fight against.

The MIT faculty weren’t going to accept the Whitehead Institute without some stipulations of their own. If Jack Whitehead had specific special conditions then MIT was going to, too. The MIT faculty wanted the researchers at the Whitehead to be jointly appointed by the Whitehead and MIT. As MIT faculty they would be selected in exactly the same way other MIT professors are selected and they would be responsible to teach undergraduates and graduate students. The salaries for the Whitehead faculty would be paid for by the Whitehead Institute and the graduate students working in labs with Whitehead faculty would be supported by the Whitehead Institute.[[29]](#footnote-29)

Even with stipulations to counterbalance Jack Whitehead’s concrete demands, there were still many faculty wholeheartedly against the idea. Many were simply not persuaded that the deal was in MIT’s best interest.[[30]](#footnote-30) A new fully funded research institute could potentially undermine MIT’s continuing fundraising efforts and a there was also the risk of conflicts due to Whitehead family commercial ties.[[31]](#footnote-31) They failed to see how the benefits of establishing this institute could outweigh the risks.

More than just a bad business deal, there were others who were concerned about what this would mean for loyalties at MIT. Nearly a quarter of the faculty would now have dual loyalty to two institutions and many worried that would evolve towards a division in the future.[[32]](#footnote-32)[[33]](#footnote-33) Professor Sheldon Penman was one of the most outspoken faculty members in this regard. He was very concerned about the precedent that was going to be set with this type of affiliation and the duty that the Whitehead faculty would feel to teach and serve MIT.[[34]](#footnote-34) Others still were concerned about Whitehead himself. John Pratt, former Whitehead Institute Associate Director later said “Some people thought this was all a scheme of Jack Whitehead to make a bundle off the intelligence of MIT.”[[35]](#footnote-35)

Perhaps most outspoken of all those against the proposition was David F. Noble, a historian of technology and an associate professor at MIT at the time.[[36]](#footnote-36) Noble felt that MIT would be selling its knowledge as part of the deal, seeing as MIT was agreeing to share members of its faculty with the Whitehead Institute. Since this knowledge was a result of decades of public funding, funding paid for by taxpayer dollars, that knowledge was not MIT’s to sell.[[37]](#footnote-37) Noble did not hold back, he made sure his opinions were well known regarding the merger between MIT and the Whitehead Institute, he published his thoughts in *The Nation* in February 1982.

While there were many still unconvinced of the merger, there was a vocal and persuasive group that was in favor of the affiliation. This group helped place the benefits to the agreement in stark contrast to the issues. The Whitehead Institute would incorporate a new facility and a larger community of graduate students, postdoctoral fellows, and faculty.[[38]](#footnote-38) In addition to new people and buildings, the Whitehead Institute would add to MIT intellectually, the institute would be able to provide new resources for instruction and expanded opportunities for undergraduate research.[[39]](#footnote-39) The institution would add an enormous amount of prestige to MIT and ensure MIT’s position as a world center for biological research.[[40]](#footnote-40) MIT Provost Francis Low was among this vocal group, concluding: “the benefits definitely outweigh the potential problems going ahead.”[[41]](#footnote-41)

Eventually the argument reached a critical mass, around November 1981, and MIT put the decision to a vote.[[42]](#footnote-42) At a faculty meeting with nearly 350 faculty members present, the proposal passed almost unanimously.[[43]](#footnote-43) Although the vote was passed by an eight-to-one margin, caution moving forward was urged: “Recognizing the great potential value of the proposed Whitehead Institute…we support the administration’s plan to bring the Whitehead proposal to the MIT Corporation. At the same time, we acknowledge the existence of legitimate, deep concern over the risks inherent in the venture, and hope that efforts to minimize these risks will continue.”[[44]](#footnote-44)

Following MIT faculty approval, the affiliation was brought to a vote by the MIT Corporation on December 4, 1981.[[45]](#footnote-45) Nearly unanimously, the Corporation voted to approve the merger between MIT and the Whitehead Institute, sealing one of the largest gifts ever made to biomedical research and ending the tumultuous year-long debate for MIT and the nearly decade long fight for Jack Whitehead.

After the arduous task of establishing the Whitehead Institute, Baltimore found himself in another lengthy task: recruiting faculty to work there. He found much less opposition here, Baltimore was honest, confident, and persuasive and his reputation was impressive. His biggest decision was finding the right group of people to join him. He eventually decided on four founding members: Harvey Lodish and Robert Weinberg from MIT, Gerald Fink from Cornell University, and Rudolf Jaenisch from Hamburg, Germany.[[46]](#footnote-46) Together these four would help ensure that the vision of the Whitehead Institute would become a reality.

It did not take long for the Whitehead Institute to get roaring. The Institute was established in 1982 and twenty months later it moved to the newly built location at 9 Cambridge Center. In the new building the Institute truly thrived: two hundred people working together to tackle the most pressing and innovative questions in biology.[[47]](#footnote-47)

In the late 1980s the biggest question in biology was genomics. So, in 1990 the Whitehead Institute founded the Center for Genome Research and in doing so paved the way for genetics and genomics research for the rest of the world. Led by Eric Lander, the Center helped sequence the human genome, identify single nucleotide polymorphisms (SNPs), and innovate the way that sequences are translated.[[48]](#footnote-48) The Whitehead Institute contributed nearly a third of the sequence as part of the Human Genome Project.

In 1992, just ten years after the Whitehead Institute was founded, it produced the most cited papers of any other biological research institute, including all universities. The small close-knit community was a hub for innovation. It seemed as though the Whitehead Institute was always one step ahead of the field, always churning out data to ask the next set of questions.

MIT was ranked second for the most cited papers for any biological institute in 1992 and together MIT and the Whitehead Institute dominated biological and biomedical research. It did not take long for the Whitehead Institute to start accruing awards. The Institute currently has three National Medal of Science winners: Weinberg (1997), Susan Lindquist (2010), and Jaenisch (2011); nine members of the National Academy of Sciences (Fink, Lodish, Weinberg, Jaenisch, Lindquist, David Bartel, Terry Orr-Weaver, David Page, and Richard Young); and seven Fellows of the American Academy of Arts and Sciences (Fink, Jaenisch, Lindquist, Lodish, Page, Weinberg, and Hidde Ploegh).[[49]](#footnote-49)

The Whitehead Institute has truly become one of the world’s leading centers for genomic, biological, and biomedical research. It is incredible to think how such a successful and world-renowned institution was once the topic of a fiery debate: the Whitehead Institute as we know it today almost did not exist. Had it not been for an unyielding Jack Whitehead, a charismatic David Baltimore, and an MIT faculty willing to take a chance, the world’s greatest biomedical research institution may have never existed.

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