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Author(s): John A. Heitmann

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DOING "TRUE SCIENCE": THE EARLY HISTORY OF THE INSTITUTUM DIVI THOMAE, 1935-1951

BY

JOHN A. HEITMANN*

... the Church, which is at home in all times and all places, and adapts itself to all; which blesses and fosters all healthy initiative, and has no fear of the progress, even the most daring progress of science, if only it be true science.¹

Science, which consists in true recognition of fact, is never opposed to the truths of the Christian faith; in fact—as everyone who examines and meditates on the history of science is bound to admit—the Pontiffs, together with the Church, have never at any time failed to encourage the research work of learned men, also in the sphere of experimental science; this research work has, in turn, made a valid contribution to the defense of the treasure of heavenly truth entrusted to the Church.²

To date, scholars have examined precious little of the relationship between Catholicism and science in America.³ Those few researchers

*Dr. Heitmann is a professor of history in the University of Dayton.

¹Pope Pius XI, encyclical *Ad Catholicos Sacerdotes*, December 20, 1935, in *The Papal Encyclicals, 1903-1939*, ed. Claudia Carlen, I.H.M. ([Wilmington, North Carolina], 1981), p. 508; http://www.vatican.va/holy_father/pius_xi/encyclicals/documents/hf_p-xi_enc_19351220_ad-catholicos-sacerdotii_en.html, quoted in Frank Smith, "Science and Religion March Hand in Hand," *Chicago Times*, March 13, 1938, The Scrapbooks of George Speri Sperti, Kentucky Historical Society (hereafter referred to as Sperti Scrapbooks), Reel 4.

²Pope Pius XI, *In multis solacitis (Ex motu proprio)*, October 28, 1936, in *Acta Apostolicae Sedis*, 28 (1936), 421-424; G. B. Marini-Bettòlo, *The Activity of the Pontifical Academy of Sciences 1936-1986*, 2nd ed. (Vatican City, 1986), p. 196.

³Helpful in understanding the history of Catholicism in America is Philip Gleason, *Contending with Modernity: Catholic Higher Education in the Twentieth Century* (New York, 1995), and Scott Appleby, "Church and Age Unite!" *The Modernist Impulse in American Catholicism* (Notre Dame, Indiana, 1992), pp. 13-52. In searching several databases I was surprised to find so little on Catholicism and science in the United States. See also David Hollinger, "Science as a Weapon in Kulturkämpfe in the United States during and after World War II," *Isis*, 86 (1995), 440-454; James Gilbert, *Redeeming Culture: American Religion in an Age of Science* (Chicago, 1997), pp. 59, 67, 142, 218; Kathleen M. Joyce, "Science and the Saints: American Catholics and Health Care, 1880-1930" (unpublished dissertation, Princeton University, 1995); Carl-Henry Geschwind, "Embracing Sci-

who have explored this field have limited their activity largely to studies of the controversy over evolution, Catholic women and health care, apologetics demonstrating how the Church has fostered rather than hindered science, or angry works on the history of sexuality, employing Catholicism as a slow-moving target.⁴ Indeed, the story of American Catholics and science, or the absence of a story, can be quickly characterized in a few pages, as Daniel Kevles did more than twenty years ago in his widely read *The Physicists*. Yet, reading Kevles leads to little satisfaction for one interested in going beyond superficialities, and in particular in placing science within a complex and dynamic social and cultural context.⁵

This essay focuses on the origins and early history of the Institutum Divi Thomae [hereafter referred to as the IDT or Institutum], thus describing one particularly rich episode illustrating the relationship between American Catholicism and science during the middle of the twentieth century. The IDT was established by the Archdiocese of Cincinnati in 1935; its faculty and students, while working in the area of cancer research, published hundreds of scientific and technical papers, developed a number of commercial products, and received considerable publicity in both the religious and secular press during the first two decades of its existence. However, with its gradual decline beginning in the 1950's and the closing of its doors by the 1980's, the IDT vanished without a trace from historians' radar screens. Yet if we are to understand more fully the IDT's accomplishments, the place of science within Catholic culture in twentieth-century America, and the science-religion relationship in an operational institutional setting, this story becomes an important one.

In the cultural context, the Institutum was an American Catholic response to both the modernist theological controversy and scientific materialism. Additionally on a more practical level, it served the need to train Catholic scientists in fundamental research. The aim of the IDT

ence and Research: Early Twentieth Century Jesuits and Seismology in the United States," *Isis*, 89 (1998), 27-49.

⁴For example, see Etienne Lepicard, "Eugenics and Roman Catholicism: An Encyclical Letter in Context: 'Casti Connubii,' December 31, 1930," *Science in Context*, 11 (1998), 527-544; Suzy Farren, "A Call to Care:" *The Women Who Built Catholic Healthcare in America* (St. Louis, 1996); Bernadette McCauley, "Who Shall Take Care of our Sick? Roman Catholic Sisterhoods and their Hospitals, New York City, 1850-1930" (dissertation, Columbia University, 1992).

⁵Daniel Kevles, *The Physicists* (New York, 1977), pp. 207-210, 371-372.

was to gain prestige at a time when American Catholics were being characterized as lacking in intellectual and scientific accomplishments. During the late 1920's and early 1930's, statistical studies indicated Catholicism's woeful lack of working scientists when compared to Protestant denominations and to perceptions of a decline in faith and an increase in moral decay.⁶ While the IDT met several specific needs of the Church, it also developed a distinctive humanitarian purpose reflective of its Christian origins—that of improving public health, most particularly in searching for a cure for cancer at a time prior to the involvement of big government and major research universities in scientific medicine. The IDT's struggle for self-definition, financial resources, and recognition resulted in new and useful products, newly trained scientists, and a number of unanswered historical questions.

In June of 1935, the Archbishop of Cincinnati, the Most Reverend John T. McNicholas, O.P., played the leading role in creating the IDT. As its founder, McNicholas left a significant imprint on the IDT's early mission and research strategies. A Dominican priest who possessed a grand educational vision, McNicholas took a leading role in establishing the Athenaeum of Ohio in 1928. By the early 1930's, the archbishop had become interested in complementing the two existing seminaries and a teachers' college located at the Athenaeum's Beechmont Avenue facility with a uniquely structured school for scientific research. The archbishop had decided views about how modern science might strengthen rather than undermine traditional values, and his thinking was representative of other thoughtful Catholics of the day who also were attempting to reconcile science with religion.

Between 1900 and 1950 there existed a strong movement within American Catholicism to forge a Neo-Scholastic and distinctively Catholic synthesis in which religion and science would not be in opposition to each other. Therefore, McNicholas' vision of the IDT, while unique in many respects, mirrored main currents within American Catholicism of

⁶On the various studies conducted during the 1920's and 1930's and the initial Catholic response, see John A. O'Brien (ed.), *Catholics and Scholarship: A Symposium on the Development of Scholars* (Huntington, Indiana, 1939). Important chapters in this book include: John A. O'Brien, "Catholics and Scholarship" and "Catholics on University Faculties"; Hugh S. Taylor, "The Passport of Scholarship"; Karl F. Herzfeld, "Filling the Gap in Science"; Rev. John P. Donaghey, "Stimulating Research in Our Universities"; and James Arthur Reyniers, "Ways and Means of Developing Catholic Scientists."

the Depression Era.⁷ With quantum mechanics displacing traditional mechanistic explanations during the mid-1920's, the 1930's were seen by McNicholas and others as the decade in which theology and science could once again be brought together, despite the invariable philosophical difficulties inherent to such a union. Encouraged by Catholic scientists, including Alexis Carrel, Robert Millikan, Hugh Scott Taylor, Max Planck, and others, the early supporters of the IDT shaped a distinctive response both to charges of ignorance within the Church, concerns over changing moral values, the atheistic idea that in modern science lay human salvation, and the issue of truth.

Unlike biblical fundamentalists, however, these Catholics asserted that the truth lay in the unity of revealed and empirical knowledge. Such a synthesis was to be achieved by scientists and theologians guided by God through the Holy Spirit. In the process, faith would be strengthened and better people would result. Thus, in contrast to David Hollinger's recent work that characterizes American Catholics as taking a hostile view toward science during and after World War II because of perceptions concerning the erosion of values, this study of the years prior to 1941 suggests the existence of a strong movement within American Catholicism that argued for science as a means to promote morality. This science was to be Catholic science, however, and separate from the more pluralistic mainstream.⁸

McNicholas set two major objectives for the IDT.⁹ The first was to train a new generation of scientists in a broad rather than overly specialized manner. And while the backgrounds of IDT students proved to be diverse and included a number of non-Catholics, a primary constituency was that of nuns who were trained in the basic sciences so that they might be better prepared when they returned to their small colleges. These women, fully versed in modern research techniques, continued work along lines useful to current efforts of IDT faculty, particularly in the area of cancer research. As McNicholas also had envisioned, they were to shape campus values by influencing "to a great

⁷See Arnold Lunn, "The Case for Truth," *The Commonweal*, 24 (May 15, 1936), 71; William M. Agar, "Religion and Science," *The Commonweal*, 25 (March 19 and 26, April 9 and 16, 1937), 569-571, 599-600, 662-664, 689-692; George Barry O'Toole, "Closing the Rift between Science and Religion," *Catholic Educational Review*, 36 (1938), 129-146; Brother Eugene A. Paulin, S.M., "Some Catholic Aspects of Science and Science Teaching," *The Catholic School Journal*, 37 (November, 1937), 316-318.

⁸Hollinger, *op. cit.*, p. 442.

⁹Patrick O'Brien, "Science in the Catholic Manner," *The Vincentian*, May, 1939, p. 126, in Sperti Scrapbook, Reel 4.

extent thousands of Catholic women who are exposed to the dangers of our agnostic, atheistic and pagan philosophy."¹⁰ This notion of linking virtue and godliness with science was heeded and would be further articulated in the writing of IDT student Sister Miriam Michael Stimson. In 1938 Sister Stimson authored an article in *The Catholic Telegraph-Register* describing not only the fundamental principles of the visible spectrum, but also extending this work into the philosophical. She claimed, "The fundamental mode of operation of light is outside the limitations which man might set by his formulations—it is objective. As in the solar spectrum, so too, the fundamental laws of morality are outside the influence of time and custom; they are objective."¹¹

The Institutum's second objective was to demonstrate that science and Catholicism were not opposed to each another. The IDT's supporters believed that fundamental science would ultimately determine "as far as possible the basic laws governing natural phenomena."¹² To achieve this, the IDT was to be staffed with scientists who worked ideally in interdisciplinary areas and who also were philosophically inclined. These researcher-teachers were initially guided by trained philosophers on the faculty, who also sought to bridge in the library and not in the laboratory the gap between science and philosophy. According to McNicholas, had "true" philosophers like those employed at the IDT been active in previous decades, "they could have averted the shameful irreligion, agnosticism and even atheism that are rampant in colleges and universities."¹³ Ultimately, then, the work of the IDT staff was to separate

¹⁰*Ibid.* Arguably the most successful aspect of the IDT over its history was its influence in improving research at small, predominantly female Catholic institutions. For example, in 1970 nineteen small Catholic colleges had laboratories that were tied to IDT research efforts. See St. Thomas Institute of Advanced Studies, *The Chronicle*, Spring, 1970. Archbishop McNicholas' attempts to recruit Dominican nuns and subsequent difficulties related to their visibility at the IDT can be gleaned from Sister Mary Gerald to the Most Reverend John T. McNicholas, January 20, June 14, and July 4, 1945, all in Drawer 15, File Folder 8, "Dominican Sisters—Adrian," in the Archbishop McNicholas Papers, Archives of the Chancery, Cincinnati; Sister Mary Gerald to the Most Reverend John T. McNicholas, June 15 and December 12, 1942, in Drawer 15, File Folder 11, "Dominican Sisters—Adrian, MI," McNicholas Papers; Archbishop McNicholas to The Reverend Mother M. Gerald, O.P., September 10, 1940, Drawer 15, File Folder 12, "Dominican Sisters—Adrian, MI," McNicholas papers; Sister M. Gerald to The Most Reverend John T. McNicholas, O.P., S.T.M., January 5, 1939, Drawer 15, File Folder 13, McNicholas Papers; Archbishop McNicholas to Mother Gerald, June 19, 1936, Drawer 15, File Folder 14, McNicholas Papers.

¹¹Sister Miriam Michael Stimson, "As a Scientist Sees It: Nature of the Spectrum, Color is Explained," *The Catholic Telegraph-Register*, CVII (March 11, 1938), 5.

¹²George S. Sperti (ed.), *Probiotics* (Westport, Connecticut, 1971), p. vii.

¹³"Closer Bond Between Religion and Science Urged," Sperti Scrapbook, Reel 4.

truths from half-truths, falsehoods, and superficialities. In doing so, scientific knowledge was to be holistic rather than fragmented. And to accomplish this, IDT faculty, while addressing current scientific problems, were also to work within an environment rooted in the organic intellectual vision of the Middle Ages. McNicholas later described this educational philosophy to a Catholic Philosophers' Convention visiting Cincinnati and the IDT in 1938:

If we can have various experts in science who at the same time are philosophers devoting themselves to the study of the same problem from different angles we shall then be in a position to make the scholastic synthesis, as it was understood by the scholars of the Middle Ages more appreciated in our day.¹⁴

McNicholas' attempt to achieve a twentieth-century scholastic synthesis in Cincinnati was best described by an IDT philosopher, the Reverend James A. O'Brien. In 1938 O'Brien, formerly at the University of Illinois' Newman Foundation, was appointed to the IDT as a Lecturing Professor of Philosophy, while currently employed as an Assistant Professor of Sacred Theology at the Catholic University of America. Along with the IDT director, George Speri Sperti, O'Brien authored an essay entitled "Supreme Intelligence and Science," which was published in the *Studies of the Institutum Divi Thomae*. Although as much a diatribe against critics as a statement of method, the article fully described the ideological basis and core values that were to guide Institutum staff and students during its early days.¹⁵

In the first half of their 1938 article, O'Brien and Sperti mercilessly lashed out at anti-Catholic critics, perceived or real. The authors began with a discussion of modernism and rationalism, asserting that contemporary rationalists, in celebrating reason, dismissed revealed religion, and "oppose especially Catholics . . . who accept religious teaching. . . ."; Catholics who are "scorned and mocked as the most gullible and deluded men."¹⁶ Yet the real problem, according to the authors, resided with these "pseudo-scientists,"

to whom the Catholic Church objects, partially because the pseudo-scientist delights in attacking her doctrine, but most of all because he is not a scientist. He is sailing under false colors. He is in reality a hypocrite. He accepts as

¹⁴*Ibid.*

¹⁵Rev. James W. O'Brien and George Speri Sperti, "Supreme Intelligence and Science," *Studies of the Institutum Divi Thomae* [hereafter referred to as *Studies*], II (1938), 1-19, 15.

¹⁶*Ibid.*, p. 1.

true and certain, what is at most, probable or perhaps entirely unsupported by objective evidence, provided it is sufficiently materialistic in character.¹⁷

Furthermore, O'Brien and Sperti stated that these practitioners of false science reject Catholicism's doctrines as ludicrous, impossible, and strange, while at the same time adhering to a theory "that men are descended from Monkeys. . . ."¹⁸ But while to these misguided scholars rationalism led to confusion and misdirection within the scientific community, the real issue was that they negatively influenced society and in particular young people. The authors claimed that the general public, especially young people, were unable to discern truth from falsity. Therefore, religious beliefs and morality were at risk. However, true science posed no threat to the soul.

If students of science studied and observed the almost unbelievably intricate design of nature, they would begin to perceive that this universe of ours, from the infinitesimal unit of matter, the atom, to the complicated galaxies and super-galaxies, is so well planned and organized that it could not possibly have been made by any force other than that of a Super-Intelligence.¹⁹

Thus, Sperti and O'Brien argued for the existence of a Super-Intelligence or God using causal demonstrations first articulated by St. Thomas Aquinas and subsequently elaborated in the eighteenth century by Paley.²⁰ As a consequence, O'Brien and Sperti constructed their science based on the principle of intelligent design. Citing the chemistry of Vitamin D and the presence of ozone in the upper atmosphere, the essay concluded:

These and many other facts in the scientific field can be readily cited to verify the supremely important fact that we are living in a well-planned and regulated universe which the combined intelligence of mankind of all

¹⁷*Ibid.*, p. 2.

¹⁸*Ibid.* On the topic of the American Catholic response to Darwinian Evolution, see Maurice Ronayne, *Religion and Science: Their Union Historically Considered* (New York, 1902), pp. 229-254; Bishop Hedley, *Evolution and Faith* (London, 1931), pp. 1-56; and especially Rev. Hubert Vecchierello, *Catholicism and Evolution* (Paterson, New Jersey, 1933) and *Evolution—Fact or Fancy?* (Paterson, New Jersey, 1934).

¹⁹O'Brien and Sperti, *op. cit.*, p. 5.

²⁰On Archbishop McNicholas and his Thomism, see Steven M. Avella, "John T. McNicholas in the Age of Practical Thomism," *Records of the American Catholic Historical Society of Philadelphia*, 97 (1986), 15-25. This "scholastic synthesis" was a central objective of many early twentieth-century Catholic intellectuals, and it was a response to Leo XIII's 1879 encyclical *Aeterni Patris* encouraging a re-examination of the thought of Thomas Aquinas, further encouraged by the 1907 papal condemnation of modernism. My thanks to my University of Dayton colleague Una Cadegan for this insight.

ages could not design and operate. It is no wonder that students, having worked in the scientific field, should be thoroughly convinced of the existence of a Supreme Intelligence or almighty Creator.²¹

Contrary to the philosophies of Kant, Hume, and Mill, IDT philosophical foundations were structured around arguments of first cause, efficient causality, possibility and necessity, perfection and order.

Rationale centered on faith and morality at the IDT, however, would gradually give way to the pressures of fund-raising and the day-to-day pursuit of scientific problems. Difficult tradeoffs between the spirit and the flesh and a loss of focus characterize much of the post-World War II IDT story. And to understand the IDT's challenges, successes, and disappointments, the career of its only Director, George Sperti (1900–1991), must be carefully examined.

By all accounts Sperti was brilliant, clever, flamboyant, astute, personable, political, and yet at the same time unassuming and humble. It is not surprising that Sperti would be cast into the role of a hero, as he was featured in the 1952 comic book "Catholics in Action," published by the Commission on American Citizenship at the Catholic University of America.²² Featured as a man who put Catholic principles into action and as one of the world's greatest scientists, the sketched frames tell the story of a man who did the impossible despite experiencing repeated discouragement and failure along the way. Whether it involved electrical technology, the invention of a sunlamp, food science, the development of a salve for burns, a substitute for agar and quinine, or even working toward a cure for cancer, Sperti was a superman. And if we are to believe the cartoon narrative, the moral of Sperti's biography was that, despite his humble origins as the son of Italian immigrants, his work was done with no regard to financial reward. A young reader may have concluded then, that it is this attitude that "leads to true happiness." It would be, however, Sperti's lack of attention to financial details that proved to be the IDT's greatest liability.

It was Sperti's belief in a personal God who was the guide to truth that shaped his final judgment of prospective faculty and students at job or admissions interviews. As he reiterated many times to the secular and religious press, in terms reflective of a widespread contemporary sensibility,

²¹O'Brien and Sperti, *op. cit.*, p. 19.

²²The Commission on American Citizenship, Catholic University of America, "Catholics in Action," *Treasure Chest*, December 4, 1952, Sperti Scrapbook, Reel 3.

I have nothing against an atheist if he is really sincere in his belief. I do pity him of course, but I refuse to work with him. Not just because he doesn't believe in God, but because I would not trust the judgment or observation of a scientist who, as he works with his test tube and microscope, fails to recognize the Design of some Greater Intelligence.²³

George Sperti was born in Covington, Kentucky, on January 17, 1900. Educated at the University of Cincinnati, he first gained attention in 1919 while a co-op student working for Union Gas and Electric Company. Sperti, working in his mother's kitchen and using her utensils, including her breadboard, developed a device to measure the high electrical loads necessary for the metering of industrial customers.²⁴ For this invention he was paid \$50,000, and clearly he was the best advertisement for Herman Schneider's nationally recognized co-operative engineering program.²⁵ After graduating in 1923 with a B.S. degree in engineering, Sperti remained committed to his pursuit of scientific research, and his first earnings were used only for subsequent efforts. However, he also found an institutional home at the University of Cincinnati under Schneider's wing, where by 1925 he became a research professor and director of the Basic Science Laboratory.

In 1926 Sperti co-authored with Schneider a short exploratory monograph entitled *The Quantum Theory in Biology*, an initial foray into the new area of quantum mechanics as applied to biological materials.²⁶ And while it is unlikely that this work had any impact on the larger scientific community, ideas concerning light and its interactions with matter remained central to Sperti's research agenda to the end of his career in the 1970's. In addition, Sperti's later emphasis on interdisciplinary studies, his insistence on a team approach in the laboratory, and the minimization of personal credit were all instilled in him while at the University of Cincinnati. For both Schneider and Sperti, the ultimate aim

²³O'Brien, "Science in the Catholic Manner," p. 127; see also George Sperti, "Why Should a Scientist Believe in God," *The Catholic Women's News*, February, 1936, Sperti Scrapbook, Reel 4.

²⁴On Sperti, see Anne Tansey, "G-Man of Science," *The Holy Name Journal*, 1946?; Myron Stearns, "New Progress in Cancer Research," *Redbook*, August, 1946; Vic Taranto, "Dr. George Sperti," *ItalaAmerican* (New York), December, 1962, all in Sperti Scrapbook, Reel 3. More recently, Mary Phillip Trauth, "Sperti, George Sperti," *American National Biography* (1999).

²⁵On Schneider's program, see David F. Noble, *America by Design* (New York, 1977), pp. 183, 185-189.

²⁶Herman Schneider and George Sperti, *The Quantum Theory in Biology* (Cincinnati, 1926).

of fundamental research was the discovery of “the one great concept that there must be a few basic laws (or perhaps even just one!) governing all universal phenomena.” This quest to discover the unity within nature remained with Sperti when he moved to the IDT in 1935.²⁷

During the late 1920's and early 1930's, Sperti's work as director of the University of Cincinnati laboratory increasingly was directed toward matters biological and agricultural, although he had neither specific training nor an advanced degree in the field.²⁸ Whether it is true that Sperti's interest in cancer research stemmed at this time from the loss of a friend cannot be confirmed, but his ambition and intellectual talents compensated for his lack of credentials and experience.

Furthermore, Sperti's reputation grew to regional and international levels rather quickly during the early to mid-1930's, particularly within Catholic circles. His use of experimental techniques, first developed in his studies of quantum theory and biology, were put to practical use when he devised a large-scale irradiation apparatus to enhance the Vitamin D content in shipped foods. This invention earned Sperti more funds, as the Albers and Kroger grocery firms handsomely paid for the use of his equipment. More important to Sperti's future, however, was that his selective radiation process brought leading Cincinnati Catholic families into his fund-raising sphere, and they later generously supported his laboratory's studies.

These growing political and social connections more than likely enhanced his professional reputation. In June of 1934 the University of Dayton awarded Sperti an honorary Doctorate of Science degree, citing “his astounding results in scientific matters, explainable only by his extraordinary gift of scientific intuition.”²⁹ What was far more remarkable, however, was his appointment in 1936 to the newly restructured Pontifical Academy of Sciences. As one of only six Americans, Sperti joined the likes of the Harvard mathematician George David Birkoff, the distinguished physicist of the California Institute of Technology Robert A. Millikan, the renowned geneticist of Columbia University Thomas Hunt Morgan, and the Princeton chemist Hugh Scott Taylor. Sperti's international colleagues included Niels Bohr, Alexis Carrel, Peter Debye, Max Planck, Ernst Rutherford, and Erwin Schroedinger.³⁰

²⁷*Ibid.*, p. 5.

²⁸For example, see George Sperti, “Industrial Aspects of Agricultural Production,” Report submitted to the Honorable Henry A. Wallace, January 31, 1935, typescript.

²⁹“Two Honorary Degrees to be Given by U.D.,” Sperti Scrapbook, Reel 4.

³⁰*America*, March 8, 1937, Sperti Scrapbook, Reel 3.

Not all was smooth sailing for Sperti during the mid-1930's, however. His Basic Science Laboratory at the University of Cincinnati had been self-supporting, though with the economic decline accompanying the Great Depression, contracts had fallen off markedly. Consequently, the University of Cincinnati decided to close the unit. Fortunately at this time, however, Archbishop McNicholas planned to open a new scientific teaching and research institution, the IDT.

Recalling events associated with the founding of the IDT, McNicholas' nephew and perhaps closest confidant, the Reverend Timothy J. McNicholas, stated years later that the Reverend Cletus Miller, then head of the University of Cincinnati Newman Center and later dean of the IDT, brought Sperti and the archbishop together.³¹ Consequently, in 1935 Sperti moved with three of his research associates and four laboratory associates to the newly established Institutum Divi Thomae, where he would set the goal of tackling one of the most difficult scientific challenges of the twentieth century: the cure for cancer.³²

Despite his lack of a research Ph.D., Sperti possessed the ambition, energy, and fund-raising skill necessary to be an outstanding director of research. Further, Sperti was able to mix effectively with scientists, clerics, housewives, students, and businessmen. He understood well how the press and positive publicity might aid his cause, and therefore lost no opportunity to promote the IDT either by personally writing or having his staff write articles that explained complex scientific concepts to the general public.³³

³¹Rev. Timothy J. McNicholas, "Archbishop McNicholas and Institutum Divi Thomae," September 18, 1992, Archives of the Chancery, Cincinnati, Ohio. "Educational Notes," *The Catholic Educational Review*, 33 (June, 1935), 375.

³²Despite the large number of IDT staff scientific publications on cancer and the vast publicity that Sperti and his organization garnered, the historical scholarship on the topic of cancer contains no mention whatsoever of the director or the Institute. Perhaps an additional chapter should be added to the highly acclaimed Robert N. Proctor, *Cancer Wars: How Politics Shapes What we Know and Don't Know About Cancer* (New York, 1995). See also James S. Olson, *The History of Cancer: An Annotated Bibliography* (Westport, Connecticut, 1989); James Patterson, *The Dread Disease: Cancer and Modern Culture* (Cambridge, Massachusetts, 1987); Jean-Paul Gaudelliere, "Cancer and Science: the Hundred Year War," *Journal of the History of Biology*, 31 (1998), 279-288; Ilana Lowy, "Experimental Systems and Clinical Practices: Tumor Immunology and Cancer Immunotherapy, 1895-1980," *Journal of the History of Biology*, 27 (1994), 403-435; Nancy Carol Erdey, "Armor of Patience: The National Cancer Institute and the Development of Medical Research Policy in the United States, 1937-1971" (dissertation, Case Western Reserve University, 1995).

³³For example, see Frank Smith, "Science and Religion March Hand in Hand at Cincinnati's Institutum Divi Thomae," *Chicago Times*, March 13, March 20, March 27, April 3,

Sperti cannot be faulted for decisions made during his initial staffing or organization of this new and unique research institution.³⁴ During the early years of the IDT, the daily routine was handled by Father Cletus A. Miller, who was appointed Dean of the IDT. Teaching and research was largely the responsibility of a faculty of four full-time professors: Elton Cook, Professor of Chemistry and Biochemistry; Brother William A. Beck, S.M., Professor of Plant Physiology; John Fardon, Professor of Biology; and the Reverend Cornelius H. Jansen, Professor of Biophysics. Of the founding faculty, Cook and Beck possessed the strongest scientific credentials, Cook having earned a Ph.D. degree in biochemistry from Yale in 1932 and Beck with a doctorate from Fribourg in 1926.³⁵

Fardon and Jansen did not have the prestigious academic degrees of their colleagues, but rather had personal background rooted in adversity similar to that of director Sperti.³⁶ Fardon had been an associate of Sperti's at the University of Cincinnati, but their relationship went back even farther to Sperti's co-op days at Cincinnati Gas & Electric, where the two had met in 1919. Fardon was born in the Netherlands, and came to America at age 7. Losing his parents at age 12, Fardon lived alone in a single room, its walls covered with pictures of Albert Einstein, Charles Steinmetz, and Oliver Lodge, which also served as his laboratory. Possessing no more than an eighth-grade education, he held on to a dream to become a professor of science, and that dream was fulfilled at the IDT, where he was awarded a Master of Science Degree in 1939. Similarly, Father Jansen was also born in the Netherlands and orphaned by age 12.

1938; "Researches at Institutum Divi Thomae," *The Science Counselor* (Duquesne University), June, 1938; Ernie Pyle, "Science Outweighs Money," July 5, 1938; Ernie Pyle, "Dr. Sperti Seeks Cure for Cancer," *Pittsburgh Press*, July 13, 1938; "Cause of Cancer Believed Traced, Sperti Reports: Believe Irritation from Slightly Injured Cells Produces Growth Factor That Causes Disease," *Cincinnati Post*, 1938; "Scientist is so Busy he Ignores his Paycheck," *Catholic Telegraph Register*, n.d. [1938?]; "Columnist Finds Catholic Cancer Expert True Genius," *Indiana Catholic*, July 15, 1938; "Research at Institute Paves Way to Age Problem Solution," *New York Herald Tribune*, n.d. [1938?]; "Definite Progress' in Cancer Battle Reported," *Cincinnati Times Star*, October 25, 1938; John J. O'Neil, "Body Produces Cells Able to Resist Poisons," October 27, 1938; "Institutum's 'Biodynes' May Eliminate Wrinkle Worry," n.d. [1938?]; "Foundation Formed to Aid Sperti in Fight on Cancer; Definite Progress Reported," n.d. [1938?]; "Cancer Cause Believed Found, Sperti Reports," n.d. [1938?]. All in Sperti Scrapbook, Reel 3.

³⁴Especially valuable in describing the IDT's early structure is *Institutum Divi Thomae: An Institute of Scientific Research* (Cincinnati, 1941).

³⁵On Cook, see "Cook, Elton Strauss," *American Men and Women of Science* (1976), I, 822.

³⁶"Institutum Graduate Longed to Wear 'Beard of Science,'" *Cincinnati Times-Star*, June 6, 1939, Sperti Scrapbook, Reel 4.

Jansen however, had a far better formal education than Fardon, having attended school at St. Aloysius Orphanage, St. Xavier High School, St. Mary Seminary, the University of Cincinnati, and Columbia University, although his scientific credentials would also come from the IDT.

Despite the marked differences in background, each member of the faculty tied his science to God in slightly different ways. For Cook, insights in the laboratory led to the discovery of "God's wisdom," while for Fardon his work had caused him to know God better. Brother Beck actively united religion and science in his work, when he played "in the garden of God."³⁷ For Beck, as for Jansen, the world was the product of the efforts of an Intelligent Designer. And while Beck could not prove this concept with a rigorous demonstration, he clearly articulated this principle from intuition.

The substance which we call cell protoplasm, and which is the physical basis of life, grows by itself into its own kind, which becomes a part of a living whole. Foreign bodies are broken down physically and chemically, and from the wreck the living protoplasm selects the useful parts and rejects the useless parts. Protoplasm works as though it were endowed with intelligence to achieve a given and predetermined end, namely to produce a chick, frog, or a tree.³⁸

In addition to the full-time faculty and students who had earned Master's degrees and who now served as research instructors, Sperti had brought into the IDT organization nine physicians who served the institution as "Clinical Members." Their task, while working in hospitals located in Cincinnati, Dayton, Chicago, and New York, was to perform human trials based on previous laboratory work derived from experiments on rats and mice.

Additional faculty included three lecturers in philosophy. These philosophers were priests who had advanced degrees in theology and who possessed extensive knowledge of St. Thomas Aquinas. Included in this group was the influential James O'Brien, but apparently O'Brien and the others appointed had little impact on IDT operations. These religious were on call to the IDT, but apparently were rarely or never employed. And while Father Miller became aware of this situation, this

³⁷See the following articles, all in a series in *The Catholic Telegraph-Register* entitled "As a Scientist Sees It": Elton Cook, "Science has Led to Medicine's Advance," CVII (February 18, 1938), 5; John Fardon, "Eye is Indication of the Existence of God," CVII (February 18, 1938), 2; Brother William Beck, "Faith in Christ is Reasonable," CVII (January 21, 1938); Cornelius Jansen, "Amazing Facts Seen in Familiar Things," CVII (April 15, 1938), 6.

³⁸"Plant Mysteries Revealed," *Cincinnati Times-Star*, January 9, 1940, Sperti Scrapbook, Reel 4.

neglect to include religion directly into the Institute was never discussed with Archbishop McNicholas, for “all feared to voice [to him] their opinion. They were afraid—Archbishop could and would be revengeful—he was!”³⁹ Most significantly, the very purpose of the IDT was undermined, and thus this experiment in bringing together science and religion had gone off course at an early stage of its development.

The lack of philosophical and religious instruction did not prevent religious students from coming in relatively large numbers during the Institutum’s first decade. Students were divided into three groups based upon their research and classroom experience, with “Members” at the top of this hierarchy, followed by “Associates” and finally “Assistants.” Given the stringent entrance requirements and expectations that one would normally spend three full-time years for a Master’s degree and seven for a doctorate, the program was decidedly rigorous. And although full-time faculty members were few, course offerings, at least on the books, were impressive in number and titles. For example, advanced physics courses included “Physical Optics,” “Atomic Structure and Line Spectra,” “Analytical Dynamics,” and “Quantum Mechanics.” For those students who concentrated in chemistry, options included “Advanced Biochemistry: Enzyme Chemistry,” “Biochemistry,” and “Advanced Physical Chemistry–Thermodynamics.” As one might expect given the IDT’s research focus on problems related to cell biology and cancer, biology courses dominated the curriculum. “Cytology and Cytogenetics,” “Plant Physiology and Pathology,” “Marine Zoology,” “Experimental Medicine,” “Industrial Microbiology,” “Histology,” and “Pathology” were all taught at the IDT.⁴⁰

Sperti’s theoretical and experimental program was guided in part by previous research done while at the University of Cincinnati, coupled with a hunch that the renowned scientist Otto Warburg’s (1883–1970) work on cancerous tumors was right after all, though by the mid-1930’s the latter’s work had come under considerable criticism. A continuity in the Sperti laboratory’s agenda can be traced back to the conclusion of his 1926 monograph on quantum mechanics and biology, which investigated the interaction of discrete wavelengths of light with cell protoplasm. Empirical in method, Sperti’s subsequent studies centered on the concepts of controlling and influencing cell metabolism, and the interaction of light or foreign substances with proteins of abnormal cells

³⁹Rev. Timothy McNicholas, “Archbishop McNicholas and Institutum Divi Thomae.”

⁴⁰*Institutum Divi Thomae, 1948–1949* (n.p., 1948?), pp. 33–44.

to induce immunity. Trial and error studies were conducted in 1931 and 1932 using beef spleen, liver, and mouse embryo cell extracts, which gave mixed but encouraging results. These studies were temporarily shelved, but during the late 1930's they became the focal point of the IDT's attack on the cancer problem.⁴¹

Undaunted by contemporary articles seriously challenging many of Warburg's conclusions, Sperti confidently asserted as late as 1939 to researchers attending the Third International Cancer Congress in Atlantic City, New Jersey:

With its essential soundness and inherent shortcomings, Warburg's contribution to the metabolism of tumor cells represents one of the greatest advances in the study of cancer in history. Today most scientists do not agree with his theory of the cause of cancer. This does not mean, however, that his work is to be discredited; on the contrary, it should be supplemented.⁴²

Between 1937 and 1941, IDT faculty and students conducted hundreds of new experiments, often using yeast cells, including those performed by many of the "scientific sisters" enrolled in the Master of Science program. The most significant of these studies indicated that cells contain minute amounts of respiratory-stimulating organic compounds that were active even after the cells were labeled technically as "dead."⁴³ These compounds—and Sperti asserted that there were several families of them—were called "biodynes," (from bios-life, and dyne-force), and IDT research suggested that these substances, also known as intercellular or wound hormones, had the potential under different circumstances to stimulate the growth of other cells, attenuate oxygen consumption in other cells, and increase the rate of glycolysis.⁴⁴ When

⁴¹A complete discussion of IDT scientific research is in preparation but beyond the scope of this paper. See George Sperti, "Cancer Research," and "Report of Cancer Research to the National Cancer Council," November, 1937, Typescript, Archives of the Chancery, Cincinnati.

⁴²Myron Stearns, "New Progress in Cancer Research."

⁴³E. S. Cook, M. J. Hart, and R. A. Joly, "Effect of Respiratory Stimulating Factors on Endogenous Respiration of Yeast," *Proceedings of the Society of Experimental Biological Medicine*, 38 (1938), 169-170. E. S. Cook and C. W. Kreke, "Respiratory Activity of a Steam Distillate from Yeast," *Studies*, 2 (1939), 215-225; "Malt Combinations as a Source of Respiratory Factors for Yeast and Skin," *Studies*, 2 (1939), 173-178. M. V. Ruddy, "The Specific Action of Two Stimulating Factors Upon the Respiration of Yeast and Liver Cells," *Archives of Experimental Zellforschung*, 22 (1939), 599-606.

⁴⁴See, for example, "Speedier Healing of Wounds Results from Discovery Here," *Cincinnati Times Star*, May 23, 1938, Sperti Scrapbook, Reel 3; Elton S. Cook and Elsie Walter, "Preparation and Respiratory-Stimulating Activities of Some Fractions from Beef Spleen," *Studies*, 3 (1941), 39-52; John C. Fardon, Rev. Gustave C. Brotzge, and Sister M. Kenneth Loef-

cells were injured, more “biodynes” were produced than when healthy. And like the numerous vitamins that had been discovered and separated during the previous two decades, Sperti claimed that biodynes also existed in many different classes derived from yeast, animal, liver, and spleen cells. Using thousands of laboratory mice, cancerous strains were treated with cell-free biodyne extracts with reportedly positive results.

Yet the medical establishment became increasingly skeptical of work conducted along the lines of Warburg’s hypothesis, and by 1943 a very influential monograph authored by Kurt Stern and Robert Wilhelm questioned the entire work in terms of practical matters, arguing that the patients treated were unlikely to benefit from this immunological approach.⁴⁵ Challenges to this conclusion from the IDT were not forthcoming during a critical time of scientific debate, however, as America entered World War II. Instead, biodyne studies were redirected into areas seen as more immediately rewarding, including burn creams, ointments, and vitamins. Therefore, much of the momentum gained during the first six years of the IDT’s existence was lost between 1942 and 1945.

World War II and the call to patriotism was not the only reason why the IDT research agenda was distracted and deflected after 1941. Apparently by the late 1930’s the archdiocese’s funding of IDT’s laboratory was insufficient to match its director’s ambitions and the financial realities necessary to conduct cancer research on a significant scale. Consequently, Sperti employed a number of strategies to increase financial support, including the creation of a foundation, the cultivation of high-profile patrons, and the marketing of IDT discoveries by a complex infrastructure of Sperti-headed businesses.

In late 1938, Sperti, fresh from the discovery of “biodynes,” announced the establishment of a cancer research foundation associated with the IDT. Charles F. Williams, a prominent Cincinnati insurance executive and IDT donor, was appointed president of this organization, whose purpose was “to conduct an educational program and, . . . to in-

fler, O.P., “Depressed Respiration Preceding Tumor Formation,” *Studies*, 3 (1941), 53–80; Elton S. Cook and Elsie M. Walter, “Effect of pH on Adsorption by Charcoal of Factors Increasing the Respiration of Yeast and Liver,” *Studies*, 3 (1941), 139–145; “Biodynes: Inter-cellular Hormones,” *American Professional Pharmacist*, 8 (1942), 157–162.

“Kurt Stern and Robert Wilhelm, *The Biochemistry of Malignant Tumors* (Brooklyn, 1943), pp. 461–525.

terest those who wish to assist the Institutum in its expansion program. . . .⁴⁶ Subsequently the Foundation issued a brochure, headed in bold print with "Thousands are Dying of Cancer!" followed by text that succinctly defined the public-health problem, offered three discrete steps to alleviate it, and called for support from the public: "Thinking persons everywhere, regardless of race or creed, [are asked] to join in the fight," and could do so by giving \$1 to join the Foundation as a member, and \$5 as a sustaining member.⁴⁷ And while this grass-roots campaign certainly increased the visibility of the IDT, Sperti increasingly devoted his time to the cultivation of potentially large donors.

For example, in a highly publicized visit, silent screen star and "America's sweetheart" Mary Pickford along with her husband, the orchestra leader Buddy Rodgers, visited Cincinnati and the IDT during the fall of 1938 and left the tour of the laboratory "enormously impressed."⁴⁸ The Pickford-Rodgers connection became interwoven with a relationship to the Cincinnati radio magnate J. Powell Crosley, and the focus of fund-raising activities soon shifted from Ohio to Florida. Indeed, fund-raising concerns became so significant at this time that Sperti's candidacy as an advisory council member of the newly formed National Cancer Institute was withdrawn, as it was thought that his appointment would prevent the Institutum from receiving research funds from that organization.⁴⁹

Sperti, claiming that the study of marine organisms held unique clues to the origins of cancer in cells, expanded IDT's operations in 1941 to include a marine biology laboratory at Palm Beach, Florida. Sperti, who never married, along with his unwed sister, were active in Palm Beach social circles on the eve of World War II, while IDT staff set up a laboratory named Bradley Hall in the former Oasis Club gambling casino.⁵⁰ And while the Palm Beach facility seemingly diluted IDT's staff and

⁴⁶"Institute's Cancer Foundation Owed to Gift of C.F. Williams," 1938?, Sperti Scrapbook, Reel 3.

⁴⁷"Cancer Research Foundation of the Institutum Divi Thomae, Cincinnati Ohio," *Cancer*, n.d. Sperti Scrapbook, Reel 4.

⁴⁸"Secrecy Marks Visit of Former Screen Star: Mary Pickford Comes to Cincinnati for Conference," *Cincinnati Times-Star*, September 1, 1938; "Mary Pickford in City on Business Mission," *ibid.*

⁴⁹Charles F. Williams to Archbishop John T. McNicholas, August 25, 1937. Archbishop John T. McNicholas Papers, Archives of the Chancery, Cincinnati, Drawer 28, File Folder 9, "Sir Charles Williams."

⁵⁰"Palm Beach Now Workshop for Scientists Studying Cancer," 1941, Sperti Scrapbook, Reel 4; Ethel K. Ehlen, "Palm Beach Profiles," *Palm Beach Pictorial*, April 1, 1955, Sperti Scrapbook, Reel 3.

equipment resources, his business activities, while undoubtedly contributing to the financial health of the laboratory, also deflected its original research program.

As early as January, 1937, Archbishop McNicholas and his trusted friend and businessman William A. Albers began working on plans to create an organization that would market Sperti's inventions, thereby also providing additional funds for fundamental research.⁵¹ Unfortunately and over time, this endeavor created a complex cluster of inter-related business firms that proved to be Byzantine and unmanageable, yet one in which large sums of church funds continued to be placed. As organized, the IDT Foundation, along with the archdiocese and one prominent attorney, William Shea, held capital notes in Sperti Incorporated, which was a holding company that included Rookwood Pottery. This entity exerted control over several manufacturing firms that by the postwar period included Sperti Faraday (signaling systems), Sperti Products (drugs, yeasts, cosmetics, and orange juice), Cooper Hewitt (sun lamps and ultraviolet apparatus), and Schock Gusmer Co. (brewery equipment and other machinery). It was a far-flung industrial empire that included at one time or another facilities in Cincinnati, Adrian, Michigan, the Bronx, New York, Pittsburgh, New Orleans, Beaufort, North Carolina, Jensen Beach and Orlando, Florida, Hoboken, New Jersey, and Toledo, Ohio.⁵²

In part to serve the war effort, but also following Sperti's entrepreneurial instincts and unending quest for research funds, the IDT allowed itself to go in many directions during and after the war. On one hand, IDT efforts reflected humanitarian concerns, including the development of a burn cream and multiple vitamins (the "Missionary Tablet"). Additionally, the IDT laboratory also served as research and development support for a staggering array of Sperti Inc. wartime products that included high-voltage rectifying tubes, servo mechanisms, proximity fuse assemblies, navigation equipment, Manhattan Project equipment, chemical process apparatus, and dehydrated food.⁵³

⁵¹W. H. Albers to the Very Reverend J. T. McNicholas, January 5, 1937; William Albers to the Most Reverend J. T. McNicholas, July 27, 1938; Archives of the Chancery, Cincinnati, The Archbishop McNicholas Papers, Drawer 17, File Folder 9.

⁵²Karl F. Milde to Reverend Ralph A. Asplan, October 22, 1948, and Organization Chart, 1954, IDT Collection, File IV, "Sperti Inc. and Subsidiaries. General Audited Reports. Board of Directors and Officers. Stock Certificates, Books, etc." Archives of the Chancery, Cincinnati.

⁵³George Speri Sperti to Chief of the Bureau of Aeronautics, Navy Department, May 7, 1948, IDT Collection, File IV, Archives of the Chancery, Cincinnati.

Once off track, Sperti and the IDT never found its bearings again. For example, after World War II Sperti developed a technique to preserve orange juice by irradiating it with ultraviolet rays, a process similar to one he had developed for the Cincinnati grocers and their produce in the 1930's.⁵⁴ With the backing of Pickford, Rodgers, and others, Sperti established a successful orange juice business that sold more than 2 million quarts of juice per week in New York City by the mid-1950's. In similar fashion, with his other businesses that were manufacturing and marketing Sperti sun lamps, biodyne-based healing creams (Asper-creme™ and Preparation H™) and vitamins, the entire funding and mission of the IDT became muddled in the period after World War II.⁵⁵

While Sperti may have been a good applied scientist, he was certainly no businessman, and those he selected to supervise his business were either incompetent or dishonest, or both. Despite all of Sperti's innovative ideas and unceasing public relations, Sperti Inc. languished. By the late 1940's Sperti, the archbishop, and the archdiocese were in well over their heads, as archdiocesan investment was close to \$3 million. In 1949 a prominent Cincinnati businessman, William Albers, at the insistence of Archbishop McNicholas, was brought in to sort out the confusion and bring the Sperti firms back to profitability. But it appears that few subsidiaries were salvageable, and too much damage had already been done.⁵⁶ To complicate matters, the archbishop's health was failing, and he was worried, if matters were made public, that charges of financial irresponsibility could lead to his being denounced in Rome. He con-

⁵⁴On the Florida orange juice venture, see "Foundation Places Big Orange Order," *Miami Herald*, 1952; Bob Considine, "Cancer Research Gives Boost to Citrus Industry," 1955; Bob Considine, "Dr. Sperti's New Citrus Wonder," *Cincinnati Enquirer*, February 23, 1955; Advertisement, "Golden Gift: Originators of Florida's Fast Growing Fresh Juice Industry," *New York Times Sunday Magazine Section*, October 30, 1955. All in Sperti Scrapbook, Reel 3.

⁵⁵Sperti's enterprises were threefold: (1) the IDT; (2) Sperti Inc., a commercial corporation with a number of subsidiaries; and (3) the IDT Foundation, the entity which controlled assets of and royalties to the IDT, and held controlling interest in Sperti Inc. and its subsidiaries. "Notes on Leblond Case," n.d., Archives of the Chancery, Cincinnati. On matters related to Sperti's business activities, see Ralph Lostro, "New Ultraviolet Process Arrests Spoilage," *Super Market Merchandising*, June, 1938; "Sunlight Bulb Wins a Patent," *New York Times*, April 14, 1940; Advertisement, "Get Your Florida Tan in Chicago," *Chicago Tribune*, December 11, 1940; "A New Burn Cure," *Time*, October 5, 1942, p. 94; Advertisement, "Sperti Portable Sunlamp," 1946; "Sperti Forms New McKay-Davis Firm," n.d. [1946?]; Anne Tansley, "Vitamins to the Rescue," *The Missionary*, July, 1946, pp. 211-214; "Ralph A. Lostro Dies in East: Formerly Headed Sperti, Inc.," *Cincinnati Enquirer*, April 2, 1954; all in Sperti Scrapbook, Reel 3.

⁵⁶See George S. Sperti to Rev. Ralph Asplan, February 25, 1949, and William H. Albers to the Right Rev. Msgr. Clarence G. Issenman, July 14, 1950, Chancery Archives, Cincinnati.

fided to his nephew, "If I had foreseen or even dreamt that all this would have developed I would not have gotten involved."⁵⁷ Indeed, his nephew Timothy McNicholas concluded in his 1992 recounting of this episode that it was IDT troubles that led to several of the archbishop's heart attacks, with a fatal one coming on the same day in April, 1950, that George Sperti had made another visit asking for more financial support.⁵⁸

Within a year the Auxiliary Bishop of Cleveland, John Krol, was sent to Cincinnati by the Vatican to investigate the IDT. McNicholas's successor, Archbishop Karl Alter, after attempting to take control of Sperti's firms and failing to do so, divested the archdiocese from the IDT in 1951, purportedly stating that "as anyone who can read ten pages can tell you, science and religion are opposed to one another."⁵⁹ As a good steward, Archbishop Alter directed efforts after 1951 to recover funds, ultimately forcing the sale of one of Sperti's companies, the Faraday Electric Company, thereby returning the \$800,000 involved in the SEC investigation scare. But not all was recoverable, for when accounts were finally settled in 1962, the Church received only about 40% of the more than \$1.6 million dollars that remained outstanding.

The IDT, now separated from the archdiocese, continued as an independent entity until the early 1980's, educating large numbers of religious, pursuing research primarily in the area of the origins and treatment of cancer, and awarding M.S. and Ph.D. degrees, eventually changing its name to the St. Thomas Institute.⁶⁰ And while relations with the archdiocese must have been strained, they were not broken, as witnessed by the awarding of then Archbishop Joseph Bernadin with an honorary doctorate in 1976.

Despite the ups, downs, and convoluted circumstances surrounding church involvement with the IDT, the Institutum did not totally fail as

"In his 1992 account, Father McNicholas asserted, "I was—still am—convinced that this anxiety—this problem killed him."

⁵⁷*Ibid.*, p. 6.

⁵⁸"Pertinent Facts: George Sperti, Institutum Divi Thomae, The Institutum Divi Thomae Foundation, The Sperti Companies, Institutum Divi Thomae Discontinued as Archdiocesan Unit, Foundation Assumes Responsibilities of Institutum Divi Thomae." n.d., Archives of the Chancery, Cincinnati.

⁶⁰The 1951 reorganization of the Athenaeum and the indefinite suspension of the Athenaeum's responsibility for IDT operations is discussed in Francis J. Miller, "A History of the Athenaeum of Ohio, 1829-1960" (dissertation, University of Cincinnati, 1964), pp. 354, 362-364.

an institutional experiment aimed at bringing religion and science together. It remains to be seen whether or not IDT cancer research proved to be on a dead-end course. Certainly, IDT graduates played an important role in the education of students enrolled at small Catholic colleges during the post-World War II period. Indeed, the experiment may be seen as disappointing perhaps, but only if one recognizes that several key experimental parameters were changed in ways that were perhaps unimaginable to those who were instrumental in establishing the IDT in 1935. First, who during the Great Depression could have foreseen that a revolution in scientific research would occur as a result of World War II, a transition in which science would become big in terms of federal government support, equipment, personnel, and dollars?⁶¹ And from a very different angle, who among the leadership in the Catholic Church envisioned that American Catholicism and its institutions would attempt to move from the periphery to the center, as notions of separation gave way to inclusion within the post-World War II American cultural mainstream, and the Second Vatican Council (1962-1965)? Additionally, with the G.I. Bill, Sputnik, the National Defense Education Act, and other developments, Catholic universities were drawn into a far more closely tied institutional infrastructure in which science and technology were at the center, and a measure of autonomy more difficult to maintain. Thus the IDT was a transitional institution, and its history beyond its origins and first two decades, in particular the long-term significance of its scientific investigations, demands further examination.

⁶¹According to *Fortune*, "Cancer: The Great Darkness," 15 (March, 1937), 112-114, 162, there were only two foundations in 1937 that had expenditures of more than \$1 million per year dedicated to cancer research. While federal government support was limited, it increased from \$34,000 in 1930 to \$140,000 in 1937. The *Fortune* essay also discusses the state of knowledge on cancer, and claims that irritation studies aimed at understanding the genesis of malignancy—precisely one approach that Sperti and his IDT staff were then undertaking—were visionary and promising.