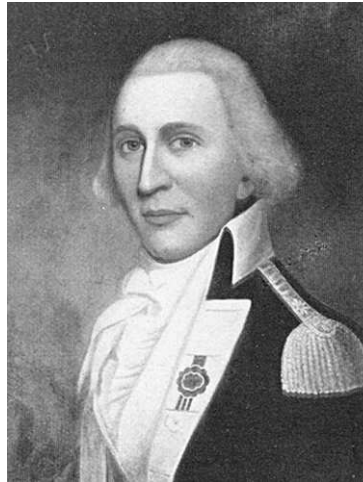


## Chapter Two

### Opening of Queen's College (1771-1816)

Classes at Queen's College began on the second Tuesday of November 1771 at the Sign of the Red Lion tavern. The tavern was located at the northeast corner of French and King Streets, now Albany and Neilson Streets. Tutor Frederick Frelinghuysen taught a small group of students when the College opened. The number is not known, but the graduating class three years later had one student in it, Mathew Leydt, and the graduating class the following year had at least five students.<sup>1</sup>



**Figure 1 Frederick Frelinghuysen**

Some of the Trustees may have assisted Frelinghuysen with the teaching. John Taylor (1751-1801) also assisted with the instruction, perhaps from the very beginning. Taylor was a classmate of Frederick Frelinghuysen in the class of 1770 at Princeton. He probably began his work at the Grammar School, which was affiliated with Queen's College.<sup>2</sup>

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<sup>1</sup>Demarest, *A History of Rutgers College*, 86.

<sup>2</sup>Ibid., 88.

## Opening of Queen's College (1771-1816)

The early curriculum at the College was primarily classical, as it was at the College of New Jersey where the tutors had studied. The two lower classes studied Latin and Greek, with some study of arithmetic and geometry. The upper classes studied geography, natural philosophy, mathematics, logic, and grammar. The study of natural philosophy, involving the principles of physics, was taught to every student of the college from the earliest days of the college, as it was at the other colonial colleges. Although it is not known what textbooks were used when classes began, an examination of the books used by the tutors at the College of New Jersey indicates that some astronomy was also taught, either as a part of natural philosophy or mathematics.<sup>3</sup>

Frederick Frelinghuysen carried out instruction at Queen's College until he left to study law, probably by 1773. He was then a delegate to the Continental Congress from 1775 to 1777. He served in the Continental Army, rising to the rank of Colonel, and was Major-General of the New Jersey and Pennsylvania troops in the Western Expedition. He became a Trustee of Queen's College as early as 1782, and then a U.S. Senator (1793-1796).<sup>4</sup>

John Taylor succeeded Frelinghuysen as Tutor and remained, with some interruptions until about 1791. In the *Catalogue of the Officers and Alumni of Rutgers College*, Taylor is listed as Professor of Natural Philosophy and Mathematics at Queen's College 1781-91.<sup>5</sup> Whether he held the position of Tutor or Professor in his later years at Queen's College, he was principally responsible for the work of the college during the first two decades, although he was assisted for short periods by other tutors.

By 1774 there were about 20 students enrolled at the College. At the first Commencement in 1774, there was a single graduate. One of the Trustees, Jacob Rutsen Hardenbergh, presided at the first Commencement, and later signed a diploma with the title President Pro Tem. It appears that he may have served in that role from time to time until he became President in 1786.<sup>6</sup>

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<sup>3</sup>McCormick, *Rutgers: A Bicentennial History*, 14.

<sup>4</sup>Alexander, *Princeton College During the Eighteenth Century*, 134.

<sup>5</sup>Raven, *Catalogue of the Officers and Alumni of Rutgers College*, 35.

<sup>6</sup>Demarest, *A History of Rutgers College*, 89.

## Opening of Queen's College (1771-1816)

The Revolutionary War began before the next commencement could be held. The College was suspended in 1775 from July 27 to October 21 as students went off to fight in the War. Students returned to New Brunswick for a period, but the College was again suspended for nearly a year as John Taylor went off to service in the Continental Army.<sup>7</sup>



**Figure 2 John Taylor**

With some help from John Bogart, and perhaps others, Taylor was able to keep the College operating intermittently during the war. Near the end of 1777 John Taylor and a half-dozen students resumed their studies at North Branch, a small community between Readington and Raritan. In a short time there were as many as ten students. A Commencement was held in New Brunswick in September 1778. Taylor was called back to military service in July 1779, and John Bogart took his place at the College. Bogart had received his degree from Queen's College in 1778, and had been responsible for the Grammar School, which was then in Raritan.<sup>8</sup>

Some information about the curriculum of the College is obtained from a letter, which Taylor wrote to Bogart in 1779, giving instructions

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<sup>7</sup>McCormick, *Rutgers: A Bicentennial History*, 16.

<sup>8</sup>*Ibid.*, 17.

## Opening of Queen's College (1771-1816)

about the work of the students. This letter confirms that natural philosophy was a part of the early curriculum.

“Mr. [Simeon] V[an] arsdalen will return I expect sometime in August when you will set him at natural Philosophy. .. The sophomore Class are reading Euclid. I would advise that they read the Three first Books before vacation and the third book of Xenophon. I think it will be best to set them at Xenophon half the Day. Let their lessons be short, and particular attention paid to grammar. I judge it will be best to construe their lessons. Messrs. [Timothy] Blauvelt, [Jeremiah] Smith, & [John] Bray should study whole numbers in arithmetic, and [Daniel] V[an] Weck Logic. I will leave a compend of arithmetic, with V[an] Wyck. I have spoke to Mr. [Robert] Eastburn in Brunswick to procure for me three Blank books for them to write Arithmetic, which you will send for if you please. Bray is behind in Euclid, I would therefore advise that he be kept at it the whole time while the others read Xenophon. He has read the third book of Xenophon. I have spoken to Mr. Brinson to make a blackboard, and have procured lampblack. You will hurry him on and get Col. D. Vroom to paint it, and keep an account of the expense.

Mr. [Henry] Remsen is reading Geography; I think it best for him to go thro it and then review it, and study the Introduction, which he omitted when he began Geography. After he has done with that let him study English Grammar; you will find a Compend[ium] in the old Chest, or in the closet. You will make any other additions to it you shall see fit. For assistance I would recommend to you Johnston's Dictionary & South's Grammar. Messrs. Courtlandt [Pierre Van Cortlandt] & [William] Crooke are reading Virgil & Greek Grammar. I did not intend they should read above 3 Eniads before they began to review the Eclogues & cicero. V. Harlegen [John Van Harlingen] & [William] Stewart are reading Greek Grammar. I would advise to keep them at it untill they have got it, and then let the four begin Greek, and review Latin together. Be pleased to hurry them on in Greek.”<sup>9</sup>

Taylor returned to teach the students at the end of the summer. In the spring of 1780, Taylor and the students moved to Millstone, and after more than a year in Millstone, the College returned to New Brunswick in May 1781.

The fledgling college continued to struggle for its very existence. Rev. Jacob Rutsen Hardenbergh, a Trustee and long-time supporter of the college, moved to Kingston, New York, and John Taylor endeavored to keep the College going. In October 1782 Taylor reported that there were

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<sup>9</sup>McCormick, *Rutgers: A Bicentennial History*, 17.

### Opening of Queen's College (1771-1816)

eighteen students in attendance, including twelve freshmen. Taylor became discouraged because his salary was considerably in arrears, and by 1784 he left the College and the students dispersed. There were no graduates from the College in 1784, 1785, or 1786.<sup>10</sup>

In 1786 the Trustees selected Rev. Jacob Rutsen Hardenbergh as the first President of the College. He had been one of the founders of the College, and one of its strongest supporters. His first Commencement address was in 1787, when there was a single graduate. There were four graduates in 1788, and ten in 1789. Hardenbergh's work at the College was instruction, rather than administration. John Taylor returned to assist Hardenbergh with the teaching, and they were aided by two tutors who were graduates of the Class of 1789.<sup>11</sup>



**Figure 3 Old College Hall**

By 1787 the original College Hall at the corner of Albany and Neilson Streets no longer provided adequate space for the College. The Trustees erected a new College Hall at the junction of Livingston Avenue and George Street, at the location of the present Monument Square. The new building, built at a cost £700, was a plain two-story frame building, painted white, with two rooms on each floor, or perhaps only a single

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<sup>10</sup>Demarest, *A History of Rutgers College*, 144.

<sup>11</sup>*Ibid.*, 157.

## Opening of Queen's College (1771-1816)

room on the upper floor. The College and Grammar School moved to the new building in 1791.<sup>12</sup>

Some additional information about the early curriculum of the College is obtained from the set of “Rules and Regulations for the Government of Queen's College in New Jersey,” which was published and distributed to the students.

“In the progress through the four different classes of the College they [the students] shall read in Latin, the principal Orations of Cicero, Virgil, and Horace; in the Greek Language, they shall read such parts of the Greek Testament as the President and Tutors shall direct; Xenophon's *Cyropaedia*, Homer and Longinus; they shall also read Kennet's *Antiquities*, Logick, Geography, Rhetoric, Arithmetic, Algebra, Euclid's *Elements of Geometry*, Trigonometry, Navigation and Surveying, Natural and Moral Philosophy, and English Grammar, and composition to be attended to in the respective classes.”<sup>13</sup>

President Hardenbergh died on October 30, 1790, and the College entered a difficult period. John Taylor left the College by 1791, going to Schenectady to teach at the Union Academy, later Union College. Tutors James Stevenson and Gershom Williams carried on with the teaching. They were followed in 1793 by Charles Smith, who had graduated from Princeton in 1786.<sup>14</sup>

In 1794 Rev. Ira Condict was appointed Professor of Moral Philosophy, and was named President Pro Tem, a position he held for the next thirteen years. He presided at the Commencement in 1794 when there were five graduates, and in 1795 when there were only two graduates.<sup>15</sup>

Because of difficulties in raising money and obtaining a president, the Trustees considered a union of Queen's College and Princeton College. After a heated debate at a meeting in October 1793, the Trustees of Queen's College rejected the proposal for union with Princeton by the narrow vote of nine to eight.<sup>16</sup>

The negotiations with Princeton College angered the General Synod of the Dutch Reformed Church, which decided that it would not

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<sup>12</sup>Demarest, *A History of Rutgers College*, 164.

<sup>13</sup>Lukac, *Aloud to Alma Mater*, 16.

<sup>14</sup>Raven, *Catalogue of the Officers and Alumni of Rutgers College*, 35.

<sup>15</sup>McCormick, *Rutgers: A Bicentennial History*, 22.

<sup>16</sup>*Ibid.*, 21.

## Opening of Queen's College (1771-1816)

turn over to Queen's College any of the funds that had been raised to support a professor of theology. The Synod subsequently proposed to turn over these funds if Queen's College moved to Jersey City. The Queen's College Trustees were adamantly opposed to moving the College from New Brunswick, but had no other means of providing the necessary financial support for the College. At a meeting in August 1794, the Trustees rejected the proposal to move the College, and voted to suspend the operation of the College after the 1795 Commencement.<sup>17</sup>

In 1807 the Trustees were able to reopen the College on the basis of a new agreement, or covenant, with the General Synod of the Dutch Reformed Church. That agreement still provided for a single or united institution for college and theology training. However, it provided that a board be appointed by the Synod to assume responsibility for the "Theological Institution in Queen's College."<sup>18</sup> When the College reopened in 1807, Ira Condict taught the junior and senior classes. He was joined in 1809 by his son, Daniel Condict, who taught the freshman and sophomore classes.

It soon became clear that there would not be sufficient space in the College Hall at Livingston Avenue and George Street to meet the needs of the College, Grammar School and the anticipated work of the Theological Seminary. The Trustees selected the site of the present Queen's Campus as the location for a new building. The new building, Old Queen's, would accommodate the Grammar School, the College and the Theological Seminary that would come into being with the appointment of a professor of theology. Provision was made in the two wings of Old Queen's for apartments for two faculty members, but there were no provisions for living quarters for students. The cornerstone of Old Queen's was laid in April 1809. By the fall of 1811 the main structure had been completed, and the College moved from the College Hall on George Street to the new building. The total cost of the building was about \$30,000 by the time it was completed in 1825. Funds for the building were raised by subscription, borrowed from a bank in New Brunswick, and secured by a lottery that had been authorized by the State Legislature. This building,

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<sup>17</sup>Demarest, *A History of Rutgers College*, 179.

<sup>18</sup>*History of Rutgers College or An Account of the Union of Rutgers College and the Theological Seminary*, 5.

## Opening of Queen's College (1771-1816)

Old Queen's, still stands, and is a focal point of the University, housing the office of the President.<sup>19</sup>



**Figure 4 Old Queen's Building**

In 1810 the Trustees appointed Rev. John Livingston as President and Professor of Theology. Livingston had been Pastor of the Dutch Reformed Church in New York City since 1770, and Professor of Theology in New York City since 1784. Because of his advancing age, 64, it was agreed that his responsibilities at Queen's College were to be limited to presiding at commencement and authenticating official documents, and that he would only take general responsibility for the college as his time and health would allow. Livingston carried on instruction of theology students until his death in 1825, but his services as President were minimal.<sup>20</sup>

As the number of students at the College increased, the Trustees sought a professor of mathematics. Until 1809 all the subjects at the College were taught by a tutor or professor, who taught an entire class (or all the classes in the beginning). The first Professor of Mathematics was Robert Adrain, a distinguished mathematician. He was born in Ireland in 1775. As he grew up, he was viewed as a genius. At the age of sixteen,

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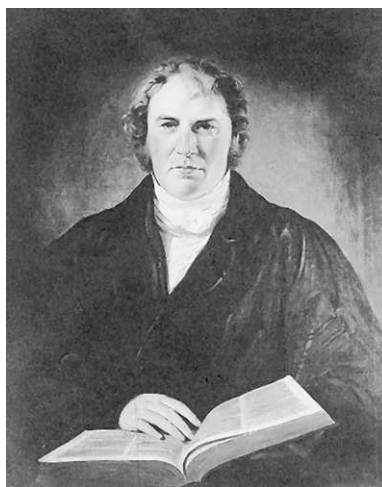
<sup>19</sup> Lukac, *Aloud to Alma Mater*, 25; Demarest, *A History of Rutgers College*, 212.

<sup>20</sup> Demarest, *A History of Rutgers College*, 218.



## Opening of Queen's College (1771-1816)

following the death of his parents, he opened a school. He became involved in the Irish Rebellion at the end of the century and was wounded. He escaped and made his way to this country, settling in Princeton. He was appointed a master at the Princeton Academy and stayed there until 1800, when he moved to Pennsylvania where he became Principal of the York County Academy.<sup>21</sup>



**Figure 5 Robert Adrain**

The first American mathematics journal, the *Mathematical Correspondent*, was published in 1804, and Adrain became one of its main contributors. A year later Adrain moved to Reading, Pennsylvania, to become Principal of the Academy there. He continued to publish in the *Mathematical Correspondent*, and became editor of the journal in 1807. At that time there were, perhaps, only two mathematicians in the country doing work of international standing, namely Adrain and Nathaniel Bowditch. Bowditch, like Adrain, was a self-taught mathematician. Bowditch was famous for his *New American Practical Navigator* (1802), and later his translation of Laplace's *Traite de Mécanique Céleste*, completed in 1818. In 1808 Adrain tried publishing his own mathematics journal, the *Analyst or Mathematical Museum*. There were so few creative mathematicians in the United States, that publication of the journal ended after a year. Adrain's first papers in the *Mathematical Correspondent* included work on

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<sup>21</sup>Demarest, *A History of Rutgers College*, 219.

## Opening of Queen's College (1771-1816)

Diophantine algebra (rational solutions to polynomial equations), and on the normal law of errors, one year before Gauss. In spite of Adrain's priority, it is Gauss who has received credit for this important statistical contribution.

Adrain accepted a position as Professor of Mathematics at Queen's College and began to teach at the College on December 26, 1809. In addition to his fields of specialization, Adrain gave instruction to the two upper classes in all subjects except moral philosophy and composition, which Condict continued to teach.<sup>22</sup>

While at Queen's College Adrain calculated the material for *The Gentlemen's Diary and Almanac* for the year 1811. He continued teaching at Queen's College until he left for Columbia College in 1813, notwithstanding Queen's College's best efforts to retain him. At Columbia, Adrain tried again to publish the *Analyst* in 1814, but only one issue appeared. In 1818 Adrain published a paper "Investigation of the Figure of the Earth and of the Gravity in Different Latitudes," and obtained a value of 1/319 for the ellipticity of the Earth, a figure better than that given by Laplace. Adrain later realized that the *Analyst* had been too high powered for the mathematicians in the United States, and in 1825 he published a lower level publication, the *Mathematical Diary*. When he left Columbia, the publication continued under the editorship of James Ryan. Adrain became a member of the American Philosophical Society and the American Academy of Arts and Sciences, and he was responsible for a new edition of a standard work in mathematics to be used by colleges and schools. His appointment in 1809, brought to Queen's College one of the few mathematicians of distinction in the United States.<sup>23</sup>

Some interesting information about the curriculum at Queen's College is contained in a letter written in 1878 by William Blauvelt, class of 1814.

"As to our course of study, we had Morse's 2 vol. of Geography, some orations of Cicero, Sallust, Horace, Cicero *de Oratore*, in Greek, Xenophen's *Cyropedra* and Homer's *Iliad*. Hutton's *Mathematics* was the book which we studied under Dr. Adrain but our admirable Professor taught us many things orally, indeed everything pertaining to

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<sup>22</sup>McCormick, *Rutgers: A Bicentennial History*, 29.

<sup>23</sup>Demarest, *A History of Rutgers College*, 220.

## Opening of Queen's College (1771-1816)

trigonometry, surveying and nautical astronomy; taught them so that only the dunces and idlers could fail of understanding them.”<sup>24</sup>

Hutton's *Mathematics* was originally published in London, and revised by Adrain in 1812. It included mathematical topics on algebra, geometry, plane and spherical trigonometry, as well as physics topics including Newton's laws, gravity, and hydrostatics. It was an excellent book with equations, exercises, and problems.<sup>25</sup> Blauvelt also wrote that there was hardly any chemistry taught, and that there was no apparatus of any kind. He indicated that President Livingston felt that there had been no advances in science and learning since he had graduated from Leiden (about 1770). Blauvelt wrote that his class of eight students, was the largest that took the full course of study, and that few of the graduates of the time could be admitted beyond the second year in 1878.

Notwithstanding President Livingston's view that there had been no advances in science since the time of the founding of Queen's College, there had been a number of significant advances. Prior to the opening of Queen's College, Benjamin Franklin showed in 1750 that lightning was an electrical discharge. Leonard Euler presented in 1765 a general treatment of the motion of rigid bodies, including the motion of the Earth, and Antoine Lavoisier is credited with founding modern chemistry in 1769 with his quantitative measurements. Luigi Galvani observed the connection between electricity and muscle action in 1791, and in 1798 Henry Cavendish determined the mass of the earth by measuring the force of gravity between two small masses and two large masses. Also in 1798, Count Rumford (Benjamin Thomson) described his experiments with boring holes in cannons that showed that the caloric theory of heat could be true, and that heat should be considered a kind of motion. Alessandro Volta described his invention of the electric battery in 1801, Thomas Young published the first of three pivotal papers explaining his wave theory of light in 1802, and in 1807 Young was the first to introduce the concept of energy and to use that word. After Young's important work, Hans Christian Oersted published, in 1820, his finding of the connection between electricity and magnetism.

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<sup>24</sup>Lukac, *Aloud to Alma Mater*, 24.

<sup>25</sup>Hutton, *A Course of Mathematics*.

## Opening of Queen's College (1771-1816)

While physics was advancing, principally in Europe, Queen's College was struggling for its existence. It had been common for the colonial colleges to raise money by lotteries. In 1812 the State Legislature authorized the Trustees of Queen's college to conduct a lottery to raise \$25,000. The authorization stipulated that the College was to use its portion of these funds for “the finishing of their new college edifice, and the purchase of a library and philosophical apparatus.”<sup>26</sup> This specification indicated the importance that was placed on providing physics apparatus for the College instructional program. In 1813 Adrain was able to use a portion of those funds to purchase “philosophical apparatus,” which included two globes, a quadrant, surveying equipment, magnets, and a prism.<sup>27</sup>

The College Faculty suffered a loss with the death of Ira Condict in June 1811, followed, in August, by the death of his son, Daniel Condict. Ira Condict had been performing the duties of President, while Livingston concentrated on teaching theology students. After a year and a half, Ira Condict was succeeded by Rev. John Schureman, who had graduated from Queen's College in 1795. Schureman was appointed Vice-President and Professor of Languages at the College.<sup>28</sup>

When Adrain left the College to go to Columbia in 1813, Henry Vethake was chosen to succeed him. Vethake had graduated from Columbia in 1808, and became an instructor there. In 1813 he came to Queen's College as Professor of Mathematics and Natural Philosophy, and later he also taught languages for a time. In 1817 Vethake went to Princeton as Professor of Mathematics and Natural Philosophy, and as Professor of Chemistry for a year. In 1821 Vethake moved to Dickinson College, returning to Princeton again in 1830. In 1832 Vethake left Princeton again, moving to New York University. He was replaced at Princeton by Joseph Henry, one of the great American Scientists.<sup>29</sup> Vethake subsequently held various positions at Washington College, University of Pennsylvania, and the Philadelphia Polytechnic. He died in 1866. He was an author and editor of distinction. Although Adrain and Vethake held their positions for relatively short periods of time, they were distinguished academic ap-

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<sup>26</sup>Lukac, *Aloud to Alma Mater*, 27.

<sup>27</sup>McCormick, *Rutgers: A Bicentennial History*, 31.

<sup>28</sup>*Ibid.*, 29.

<sup>29</sup>Wertenbaker, *Princeton 1746-1896*, 220.

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pointments. Their appointments demonstrate the importance that was attached to physics as a part of the College curriculum.<sup>30</sup>



**Figure 6 Henry Vethake**

From 1809 to 1816 there were 3 to 10 graduates per year from Queen's College. By 1814 it was obvious that the campaigns to raise funds for the new building and for the theology professorship had fallen short of their goals. In 1816 the financial report showed that there had been an annual shortfall of \$4,000 in the operating budget. Other debts incurred in connection with the new building amounted to over \$7,000. The Trustees did not see any way to eliminate these deficits, and concluded that instruction at the College should be suspended. The Board voted in September 1816 to suspend operation of the college, and the final commencement was held. The College Building, Old Queen's, was turned over to the General Synod for the use of the Theological Seminary, which continued its instruction, while one room was reserved for the Grammar School. Instruction at the College did not resume until 1825.<sup>31</sup>

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<sup>30</sup>Raven, *Catalogue of the Officers and Alumni of Rutgers College*, 36.

<sup>31</sup>Demarest, *A History of Rutgers College*, 224.