

Early Physics in Indiana (to 1900)

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About the only source of information about early Physics is that found in college catalogs. In England one could consult the various publications of the Royal Society, organized in 1660, and later societies. The Philosophical Transactions and the Proceedings of the Royal Society contain many articles pertaining to Physics.

The first meeting of the Royal Society was held at Gersham College. Thus early Physics as well as other branches of science has been associated with colleges since the beginning.

In Indiana we have very little or nothing handed down through learned societies until the founding of the Indiana Academy of Science in 1885. Thus our only source of information is from the early publications of the Indiana Colleges. The College Catalog was the only publication. This, in the early days, may be a sheet of four pages. This contains a list of the Trustees, of the Faculty, with their titles, a list of the students, and a course of study. In a sheet of four pages the information given in the Course of Study is necessarily rather meager.

Here I have made no attempt to consult college catalogs, other than those of Indiana University. So my source is Indiana University catalogs and the Proceedings of the Indiana Academy of Science.

Early Physics, or Natural Philosophy, is somewhat mixed with other sciences, such as Astronomy and Chemistry. In the early catalogs of Indiana University, Chemistry, Natural Philosophy, and Astronomy at times seem to have been given as one course. We find Chemistry, Heat, and Electricity listed as one course. Sometimes it is Chemistry, Acoustics, and Optics. Professors of Natural Philosophy seemed to be those who taught Mathematics, Physics, Chemistry, Astronomy, and perhaps Botany and Zoology. I suspect that some of these professors taught Latin and Greek in order to while away their spare time.

In the earliest catalog I found—1831—the name of Dr. John H. Harney, A.M., Professor of Mathematics and Natural and Mechanical Philosophy and Chemistry. There were three other names in the faculty list. In the list of studies for the junior year we find "Mathematics finished, Mechanics, Astronomy, Physics, Mathematical and Physical Geography." A statement is made that a "chemical and philosophical apparatus has been procured and the foundation of a well selected library has been made." It would be interesting to know just what a chemical and philosophical apparatus was.

The catalog of 1871 has lists of the teaching staff from 1832-1871. John H. Harney, 1831, is not mentioned in the list of Professors of Physical Science. However, the 1831 catalog has Natural Philosophy as one of the many subjects of which he was professor. The list of Professors of Physical Science 1832 to 1867 is as follows:

Ebenezer N. Elliott, A.M., 1832-37; Rev. Theophilus A. Wylie, A.M., 1837-53, 1855-63; Rev. Rovert Milligan, A.M., 1852-53; General Jacob Ammen, A.M., 1854, and Richard Dale Owen, M.D., 1863-67.

It states that Richard Dale Owen was elected Professor of Natural Science in 1867. The catalog of 1870 has Theophilus A. Wylie as Professor of Natural Philosophy, and Richard Dale Owen as Professor of Natural Science.

Thus starting with Harney 1831 as Professor of Natural Philosophy, we have a professor of Natural Philosophy or a professor of Natural Science from the beginning to 1871. Following this date we have Theophilus A. Wylie as Professor of Natural Philosophy or Professor of Physics until 1887, when Wylie is listed as Emeritus Professor of Physics.

In the catalog of 1837-38 where Theophilus Wylie is listed as Professor of Natural Philosophy and Chemistry we find the statement: "A laboratory and lecture room recently has been erected on the campus of the university. It offers to young gentlemen who intend ultimately to devote themselves to the Medical Profession great advantages." The catalog of 1860, where Professor Wylie is now listed as Professor of Natural Philosophy (chemistry is left out of his title), states that "The Chemical lectures and those in Natural Philosophy are illustrated in a series of experiments in the laboratory." About this time or somewhat before, this statement is found: "Additions have lately been made to the apparatus of the university, including a large Ruhmkorf coil, an improved air pump, a syren, and an Electro Magnetic Machine."

In 1885-86 Wylie is listed as Professor of Physics and J. P. Naylor as Associate Professor of Physics. In the 1886-87 catalog Wylie is Emeritus Professor of Physics. Having been Professor of Natural Philosophy from 1837 to 1886—fifty years if '37 and '86 is counted. J. P. Naylor is Acting head of Physics. The next year, 1867, Naylor is made Professor of Physics.

In 1886-87 under Naylor, the course in Physics at Indiana University was:

- I Popular Lectures, with Gage as a text.
- II Elementary Physics. Anthony and Brackett as text.
- III and IV Laboratory Courses.
- V Advanced Laboratory Studies, Thesis.

Naylor, a watch maker by trade, a born mechanic, and an industrious personage came at a time when electricity began to be useful and electrical apparatus was scarce and expensive. Naylor made the most of his apparatus. No sandpaper was allowed. The corners and edges had to be square and true. Naylor resigned to go to DePauw University as Professor of Physics in 1891. He told some one that he thought that DePauw has a greater future than Indiana University at that time, and DePauw also had a better ball team.

Associated with Professor Naylor during his last year was A. L. Foley as Instructor. In 1891-92 Benjamin F. Snow is listed as Professor of Physics on leave of absence. A. L. Foley as Associate Professor in charge of the Physics Department.

In 1892-93 Benjamin F. Snow, Professor, with A. L. Foley as Associate Professor. In 1893 Snow resigned to go to the University of Wisconsin as head of Physics. He remained at Wisconsin until he retired.

From 1893-96, Foley was in charge with Charles T. Knipp, Instructor. In 1896-97 Foley was on leave at Cornell. Knipp was in charge and Rolla R. Ramsey was Laboratory Assistant. In 1897-98, Foley was made Professor of Physics, with Knipp Instructor. In 1898-99 Knipp was on leave at Cornell. R. R. Ramsey Instructor.

In 1903 Knipp resigned to go to Illinois University, and R. R. Ramsey came as Assistant Professor.

Thus ends the Indiana University chapter, from 1831 to near 1900. No doubt a very similar chapter could be gleaned from the early catalogs of other Indiana colleges.

For my source of information about Indiana Physics in general I have consulted The Proceedings of the Indiana Academy of Science. The first meeting of the Indiana Academy of Science was at Indianapolis December 29, 1885. 1885 was the last year of Theophilus Wylie's career as active Professor at Indiana University, and the first year for J. P. Naylor. There were no published proceedings of the Academy until 1891.

The first published proceedings gives the programs of the previous meetings. Going through the programs and picking out the titles which seem to pertain to Physics, one finds the following men who gave papers.

As a parenthetic remark it should be said that in the early part of the nineteenth century Physics was mixed up with other branches and listed in general as Natural Philosophy. In the same manner near the end of the nineteenth century as well as in the twentieth century when some Physics had become "useful" we have it mixed up with—or perhaps it would be better to say it has been separated from the "useful." The "useful" has become Engineering. Some of the men whose names appear below were not teaching in Physics Departments. In Purdue University and Rose Polytechnic Institute they were listed as Electrical Engineers or Mechanical Engineers. As, in the twentieth century, we now have Radio Engineers, Acoustical Engineers, and Optical Engineers, we may expect in the near future to hear of Atomic Engineers, as soon as the atom has been put to useful rather than destructive purposes.

In the programs of the first six years 1885-91 of Indiana Academy we find J. P. Naylor giving papers in '85, '98, '90, and '91. Naylor is listed with Greencastle as his post office. However, Naylor did not leave Indiana University for DePauw University until 1891. So there may be some mistakes in my locations of other men. T. C. Mendenhall gave papers in '86, '88, and '90, address given as Washington, D. C.; Thomas Gray, papers in '88, '89, and '90, address Terre Haute; S. Lee Mees, papers in '88, '89, '90, Terre Haute; H. W. Wylie, in '88, paper titled "Refraction Index of Lard and Sorghum," probably at Lafayette at the time; E. G. Walters, '88, Lafayette; A. P. Carman, '88, '90, '91, Lafayette; J. E. Meers, '91, Richmond, Indiana; F. P. Starffer, '91, Logansport; R. A. Smart, '91, Lafayette; Mary Childs Noyes, '91, (?); F. M. Goss,

'91, Lafayette; A. Wilmer Duff, '91, Lafayette; W. E. Goldsborough, '91, Lafayette; B. F. Snow, '92, Bloomington; A. L. Foley, '94, Bloomington; W. K. Hatt, '96, (not listed); C. T. Knipp, '96, Blomington; Fred Morley, '96, (?); S. N. Taylor, '96, W. Lafayette; A. L. Foley, '97, Bloomington; M. J. Golden, '99, Lafayette; J. L. Campbell, '99, Crawfordsville; E. S. Johannett, 1900, Terre Haute; Rolla R. Ramsey, 1903, Bloomington; Rolla R. Ramsey and Peter Haseman, 1904, Bloomington.

The above list gives names of men only. Some of these will be recognized as eminent men in other lines than Physics. Some to me are only names. I do not feel that I am qualified to comment on very many. Indiana cannot trace Physics back as far as the date of the beginning of the Royal Society 1660. However, if one considers the state of civilization and settlement of Indiana, the comparison between early Physics in Europe and early Indiana is very favorable.