

## REPRODUCTIONS OF PRINTS, DRAWINGS AND PAINTINGS OF INTEREST IN THE HISTORY OF SCIENCE AND ENGINEERING

### 7. "Travelling on the Liverpool and Manchester Railway"

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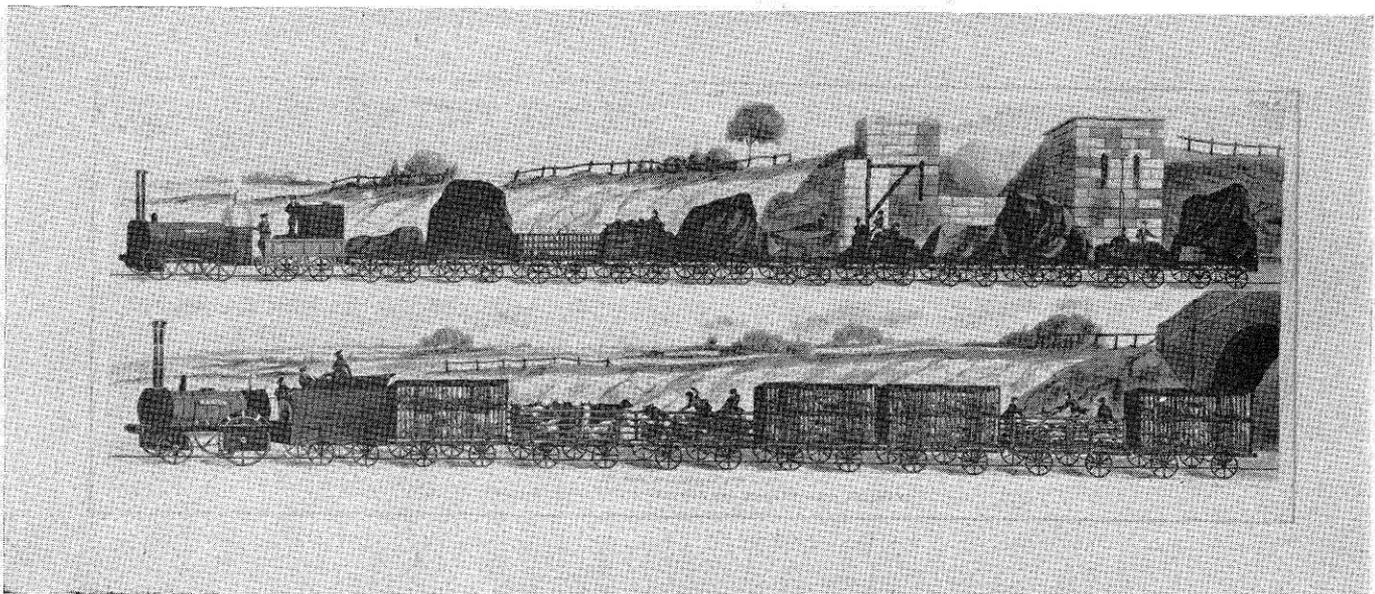
THE Liverpool and Manchester Railway, opened in 1830, demonstrated that a revolution had taken place in the methods of transportation of both goods and people. Its success was also a great stimulus to mechanical invention, since the first high-speed locomotive of the modern type was invented and constructed for use by the L & M. The interesting story of this pioneer railway has often been told<sup>1</sup> and need not be repeated here. Instead, its early days will be recalled to memory by the reproduction of the famous pair of aquatints,

entitled, "Travelling on the Liverpool and Manchester Railway," published in 1831 by Rudolph Ackermann.

The interest aroused by this first great railway line led to the publication of a considerable number of prints and other illustrations. The most beautiful series was that drawn by T. T. Bury, engraved by H. Pyall, and published during 1831 by Ackermann.<sup>2</sup> It consisted of thirteen hand-colored aquatints, 10 inches by 8 inches in size, dealing with typical views along the railroad, such as "Entrance of the Railway at Edge Hill, Liverpool," "Excavation of Olive Mount, four miles from Liverpool," "Viaduct across the Sankey Valley," "View of the Railway across Chat Moss," "Entrance into Manchester across Water Street," "Near Liverpool, looking towards Manchester," "Rainhill Bridge," "Taking in Water at Parkside," etc.

1. Hardly a book has been written about railways which does not refer to the L & M. An annotated bibliography of the most important references will be found in C. F. Dendy Marshall's article, "The Liverpool and Manchester Railway," *Transactions of the Newcomen Society*, 2, 35 (1921).

2. *Coloured Views on the Liverpool and Manchester Railway* (London, 1831).



Late in 1831 two oblong plates, drawn by I. Shaw and aquatinted by S. G. Hughes, were published by Ackermann, each measuring 26 inches by 8 inches. Both are entitled "Travelling on the Liverpool and Manchester Railway" and depict two trains, one above the other (see plate). The "Train of the First Class of Carriages, with the Mail" is hauled by the "Jupiter," a locomotive of the "Planet" class, incorrectly shown with four equal wheels, and has a comparatively modern-looking four-wheeled tender. The "Train of the Second Class, for outside Passengers" is drawn by the "North Star," an improved "Rocket" with the primitive water barrel tender. The engine of the "Train of Wagons with Goods, etc., etc.," named "Liverpool," is of the "Bury" type with coupled wheels. This engine ran on the line for some little time in the early days, but never became the property of the company. The locomotive of the "Train of Carriages with Cattle" is an excellent representation of the "Fury," which had a splashers on the driving wheels and a respectable tender with a cast-iron frame.

The original plates from which these prints were struck, were later reworked, and at least three states of the impressions exist, each with minor variants.

## MODIFICATIONS IN THROOP HALL

During the past few years there have been several modifications to Throop Hall. Most alumni will remember that the entrance lobby to Throop Hall was graced by Apollo. The space which he had dominated for so long became desirable for an expansion of the accounting office, so he was moved to the fresh air on the covered area between Throop Hall and the Kellogg Laboratory.

During the war it became necessary to expand the business office. This expansion made use of the north and south hallways on the first floor as a temporary accommodation for office workers. With the construction of the Mechanical Engineering Laboratory in the winter of 1944-45, the space at the north end of the second floor of Throop Hall, occupied by the mechanical engineering offices, was transformed into business offices.

The offices on the west side of the south hallway on the first floor have been modified to accommodate the assistant comptroller, the chairman of the Board of Trustees, and a conference room.

The Engineering Division office is now located on the large stair landing area between the first and second floors. This office was also used prior to July, 1945, as headquarters for E. S. M. W. T. courses.

One very significant change is the removal of the book store from its former location to the northeast corner of the basement floor of Throop Hall. The new quarters are indeed elegant. In fact, it appears to have been transplanted from a modern department store. Beautiful oak panelled display cases and cabinets, illuminated by fluorescent lighting, present a definite sales appeal. Adequate space is also provided for the maintenance of stocks of books and supplies. This book store is provided with an entrance from the walk on the east side of Throop Hall. To provide space for the book store, the Soil Mechanics Laboratory was moved into the space formerly occupied by the athletic office and the athletic office was moved to the area formerly occupied by the Department of Construction and Maintenance engineering group.

The area formerly occupied by the book store on the first floor has now been taken over by the Registrars Office.

## INSTITUTE LOSES HARRY BATEMAN

**P**ROFESSOR Harry Bateman, world-famed Caltech mathematician who collaborated on the theory of relativity with Dr. Albert Einstein, died suddenly January 21, 1946, en route to New York.

Professor Bateman, according to California Institute of Technology colleagues, "was probably the most widely quoted faculty member, his researches in pure mathematics being internationally acclaimed."

He was stricken on the train as he and his wife were en route to New York to be guests of honor at a dinner, following which the scientist was to be made a Fellow of the Institute of Aeronautical Sciences, and receive a medal for his contributions to aeronautics. Renowned as a chess player, he had participated in many international matches.

A member of the Caltech staff since 1911, Dr. Bateman was unique in holding full professorship in three fields—mathematics, physics, and aeronautics. In 1904-1905, he was so close to the discovery of the special theory of relativity that he, instead of Dr. Einstein, might have been given credit for the then revolutionary concept.

The author of many standard higher mathematics texts, his "*Partial Differential Equations of Mathematical Physics*" is the best known. His contribution to aeronautics, according to Professor A. D. Michal, an intimate colleague, was vital, in that his work in fluid mechanics was a basic factor in airplane design.

Born in England sixty-three years ago, Professor Bateman was graduated from Cambridge, studied in France and Germany, and served at one time on the staffs of Bryn Mawr and Johns Hopkins. He was honored by being elected a Fellow of the Royal Society, England, and a member of the National Academy of Sciences in this country. His name is among the select group whose names are starred as pre-eminent in "*American Men of Science*," the American scientific "who's who."

Besides his widow, Mrs. Ethel Bateman, he leaves a daughter, Joan Bateman, a sister, Miss Annie Bateman, and relatives in the east.

## DU PONT COMPANY FELLOWSHIPS ANNOUNCED FOR 1946

The Du Pont Company has announced plans to award the following university fellowships in 1946: forty-two post-graduate fellowships in chemistry; five in physics; fifteen in chemical engineering; and seven in mechanical engineering. Six post-doctoral fellowships in chemistry are also included. As in the past, the selection of the fellows, as well as the problems on which they shall work, is left to the universities.

Each post-graduate fellowship provides \$1,200 for a single person, or \$1,800 for a married person, together with an award of \$1,000 to the university. Among the universities listed to receive the post-graduate fellowship awards in chemistry are: Brown University, California Institute of Technology, Columbia University, etc.