

Frank and Lillian Gilbreth – brief biographical information.



Frank Bunker Gilbreth was born on July 7, 1868 in Fairfield, Maine. He was a bricklayer, a building contractor, and a management engineer. He was a member of the ASME, the Taylor Society (precursor to the SAM), and a lecturer at Purdue University. Frank died on June 14, 1924



Lillian Evelyn Moller was born on May 24, 1878 in Oakland, California. She graduated from the University of California with a B.A. and M.A. and went on to earn a Ph.D. from Brown University. She earned membership in the ASME, and like her husband lectured at Purdue University. Lillian died on January 2, 1972.

The following biography of Frank and Lillian Gilbreth was printed in the *IW/SI News*, the newsletter of the International Work Simplification Institute, Inc., in September 1968. For further reading on the Gilbreths and their family, please consult our bibliography of Gilbreth books at <http://gilbrethnetwork.tripod.com/gbooks.html>

Pioneers in Improvement and our Modern Standard of Living
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One of the great husband-and-wife teams of science and engineering, Frank and Lillian Gilbreth early in the 1900s collaborated on the development of motion study as an engineering and management technique. Frank Gilbreth was much concerned until his death in 1924, with the relationship between human beings and human effort.

Frank Gilbreth's well-known work in improving brick-laying in the construction trade is a good example of his approach. From his start in the building industry, he observed that workers developed their own peculiar ways of working and that no two used the same method. In studying bricklayers, he noted that individuals did not always use the same motions in the course of their work. These observations led him to seek one best way to perform tasks.

He developed many improvements in brick-laying. A scaffold he invented permitted quick adjustment of the working platform so that the worker would be at the most convenient level at all times. He equipped the scaffold with a shelf for the bricks and mortar, saving the effort formerly required by the workman to bend down and pick up each brick. He had the bricks stacked on wooden frames, by low-priced laborers, with the best side and end of each brick always in the same position, so that the bricklayer no longer had to turn the brick around and over to look for the best side to face outward. The bricks and mortar were so placed on the scaffold that the brick-layer could pick up a brick with one hand and mortar with the other. As a result of these and other improvements, he reduced the number of motions made in laying a brick from 18 to 4 1/2.

Frank and Lillian Gilbreth continued their motion study and analysis in other fields and pioneered in the use of motion pictures for studying work and workers. They originated micro-motion study, a breakdown of work into fundamental elements now called therbligs (derived from Gilbreth spelled backwards). These elements were studied by means of a motion-picture camera and a timing device which indicated the time intervals on the film as it was exposed.

After Frank Gilbreth's death, Dr. Lillian Gilbreth continued the work and extended it into the home in an effort to find the "one best way" to perform household tasks. She has also worked in the area of assistance to the handicapped, as, for instance, her design of an ideal kitchen layout for the person afflicted with heart disease. She is widely recognized as one of the world's great industrial and management engineers and has traveled and worked in many countries of the world.

Frank Gilbreth was born on July 7, 1868 – his centennial should mark a milestone in management and work simplification. By 1912, he left the construction business to devote himself entirely to "scientific management" – a term coined, in Gantt's apartment, by a group including Gilbreth. But to him it was more than merely the mouthing of slogans to be foisted on a worker at a job in a plant. It was a philosophy that pervaded home and school, hospital and community, in fact, life itself. It was something that could be achieved only by cooperation – cooperation between engineers, educators, physiologists, psychologists, psychiatrists, economists, sociologists, statisticians, managers. Most important – at the core of it all, there was the individual, his comfort, his happiness, his service, and his dignity.

By now, too, there was no mistaking the partnership – even though the wife's modesty, reticence, and sex could mislead all but the knowing. However, one accomplishment is strangely the contribution of Frank Gilbreth alone – even though she may have given of herself to make it possible. This construction is perhaps the greatest of all: the development of Lillian Moller Gilbreth. Few marriages throughout history can match this romance of husband and wife, both whose names have become famous in the same field. The heights that such a partnership can achieve is probably best realized by attempting to name other such combina-

tions – Pierre and Marie Curie, Charles and Mary Beard, Sidney and Beatrice Webb, Elizabeth and Robert Browning. Surely there are not many – but they are impressive.

Throughout his life, Lillian Gilbreth remained, in her eyes, the junior partner. After his death, she said: “I have had more in twenty years than any other woman I have known has had in a lifetime.” With him gone, she knew precisely what she had to do: carry on as he would do. This meant family and work. These were tasks for which many of the Gilbreth friends offered their help. Yet these were tasks that she knew she must perform alone. How well she accomplished them – most would say is a tribute to her, her spirit, her character, her intelligence, her strength. All this she would simply and emphatically deny. For to her, it goes without saying, it was simply a tribute to Frank Gilbreth. And who is to say that she may not be right?

“When it comes to the questioning method, of course he shared with all the scientific management group the belief in the value of questions and the need to ask these questions over and over determining how the thing was to be done and why it was done and how the betterment could be brought about.”

“The things which concerned him more than anything else were the what and the why – the what because he felt it was necessary to know absolutely what you were questioning and what you were doing or what concerned you, and then the why, the depth type of thinking which showed you the reason for doing the thing and would perhaps indicate clearly whether you should maintain what was being done or should change what was being done.”

“This emphasis is a little different from what most people think about Frank and his work, and about the people who worked along these ways. Generally people expect that the most emphasis would be on the where and the when and the how. The how is, of course, in most people’s minds very closely identified with motion study, work study, directed energy, work simplification or whatever name is given to this type of work today.”

“When he considered the what he thought continuously, not only of the ideal thing that was to be done and the ideal method that was to be used in order to get this done. That of course, was at the base of his favorite concept which was ‘the quest of the one best way.’ “

It is both easy and difficult to analyze this First Lady of Engineering. She is the epitome of crystal-clear logic – even though she seems to be a mass of contradictions. Trained in literature, she has found her place in engineering. As an engineer, she has found people more important than machines; waging a never-ending war on fatigue. One, watching her unceasing rounds of work, activity, and travel, can rightfully believe that she has created a non-existent foe. An extremely busy woman, she seems to have more time for things than most people. And, as kind and as gentle as she is, she can don armor and do more than hold her ground in defending the right.

We Salute You – Frank and Lillian Gilbreth – as the Fountain Head of Work Simplification. May we, the members of IW/SI, be worthy to bear the torch which you have given to us.