

FOR PERMANENT RECORD

AMBROSE SWASEY 1847-1937

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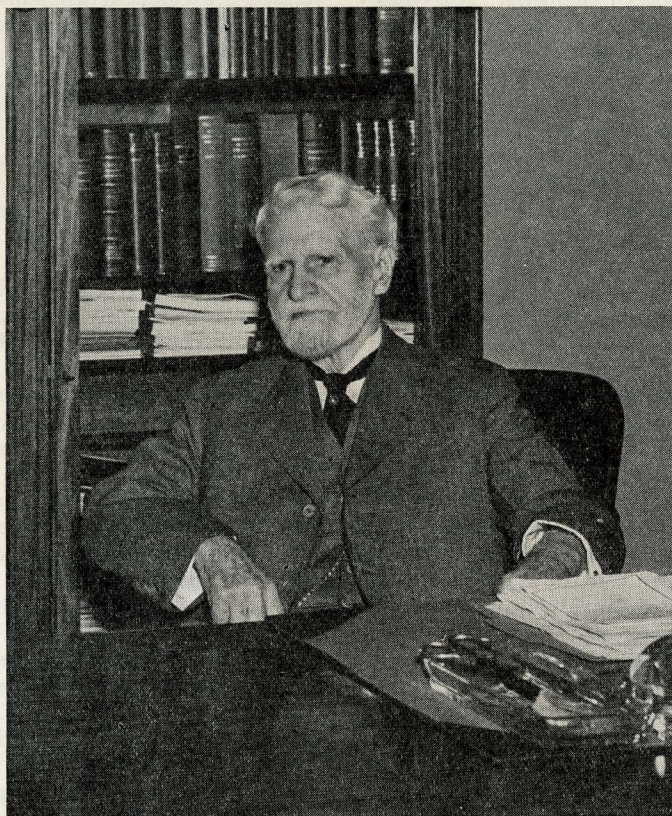
AT A time when the quiet and enduring virtues of New England character seem to be temporarily in eclipse, the death of Ambrose Swasey comes to testify to their greatness. In Ambrose Swasey they flowered and fructified and demonstrated how men of humble origin but good heredity may be influenced by their environment to make the most of their talents and opportunities. The ferment of New England at the height of its spiritual and intellectual development was strong within him. His Exeter background, the creative atmosphere of the New England workshop, and a long life maturing in the transplanted New England of the Western Reserve mercifully spared him from the frustration of decadence which Santayana has recently characterized in "The Last Puritan."

Neither Beacon Hill nor State Street robbed him of the ennobling experiences of honest craftsmanship in the mechanic arts or of participation in the mighty drama of the emergence of the industrial culture that applied science has now made typical of our present civilization. If the intellectual and religious problems that raised havoc with so many of his contemporaries troubled him, there is no indication of it to be found in his life and character, for he seems to have been able to face their dilemmas and paradoxes in the creative and evolutionary spirit that pervaded his philosophy and his career. If, in his ninety first year, he returned to spend his last days in the simple environment of his birthplace, it was from no nostalgia born of a belief that the good old days were the best and that he longed to have them back, for he had maintained as recently as his 90th birthday that this was not so. "Time modifies all this," he is reported to have said, "People will get used to it and go right on living."

The facts of Ambrose Swasey's career have been often told. Born in Exeter, N. H., on Dec. 19, 1846, the youngest child of Nathaniel and Abigail Peavey Swasey, his formal schooling was confined to a few years spent at the old Plains school house of his native town. He was endowed with a sound body and clear mind, and a simplicity and sincerity of character inherited from one of New England's earliest families that had earned the respect of Exeter for the part played in its history.

His life's work began with an apprenticeship at the Exeter Machine Works, where native talent in the use of mind, eye, and hand developed into a rare skill in precision craftsmanship, later capitalized in the building of machine tools and astronomical instruments. Here it was that Mr. Swasey became the

lifelong friend of Worcester Reed Warner, with whom he was subsequently to establish the famous firm of Warner and Swasey. With Warner he went, in 1869, to Hartford, Conn., to work in the shops of Pratt and Whitney. It was during this period in his career that Mr. Swasey devoted much time and thought to the precision manufacture of gears, being in charge of that department of the company's business, and here he developed the epicycloidal gear-cutting machine.



PORTRAIT OF AMBROSE SWASEY
Taken on May 3, 1937

But Warner and Swasey were confident of the great future for the machine tool industry and in 1880 formed a partnership and opened a business of their own in Chicago. Events proved that the sources of skilled mechanics and opportunities for successful manufacturing were brighter in Cleveland, and hence the business was removed to that city in 1881, where the great works bearing that name still thrives. Material successes required continuous enlargement of the enterprise until the partners, in 1906, when the plant was enlarged to three times its former size, decided that further expansion should be resisted. They wanted, Mr. Swasey explained, some time "to travel, to look about us, to pass some time with our friends, and to enjoy the good things of life." This they did, with that rare sense of balance and obligation to themselves and their associates and friends that brought richness to

their lives and broadened the scope of their influences.

This is no place to give in detail the history of a successful machine-tool building enterprise that has become famous the world over, or to enumerate the specific contributions to technology made by Mr. Swasey. But there existed in the enterprise and in Mr. Swasey's passion for perfection that *sine qua non* essential to the great instruments of astronomical science. Warner and Swasey became famous as the builders of mountings for telescopes, and the list of their endeavors to place instruments of the highest quality at the disposal of astronomers is a list of many of the world's great observatories. Ever larger and more important instruments came from their shops, and for many of these their old friend, John A. Brashear, kindred of their simplicity and greatness, provided the lenses. "We have never made money out of telescopes," Mr. Swasey once said with characteristic insight, "but the money we have put into that end of our business has brought us invaluable returns in the form of contacts which have helped in the production and sale of turret lathes, to which we look for profit." This far-sighted idealism, so typical of the New England roots from which it

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sprang, has been accepted by the great industries of today as a working philosophy, the basis of sound and sure advance.

It was natural that a man of Ambrose Swasey's genius and temperament should join The American Society of Mechanical Engineers in the first year of its history. Had he been close to New York, he would, undoubtedly, have been among its founders. And it was natural also that he should find in the Society an opportunity to develop his warm appreciation of personal friendship with men of his own interests and ideals. As years passed and the Society and Mr. Swasey grew, his qualities of inspirational leadership and engineering ability forced him into a position of unusual prominence among engineers. This Society and others never tired of doing him honor, and he never tired of helping them directly through his benefactions and services, and indirectly by the light shed on them by his fame and the esteem in which the world held him. In 1904 he served the Society as its president; in 1916 the Society made him an honorary member; in 1924 the Founder Societies awarded him their highest honor, the John Fritz Medal; in 1933 he became A.S.M.E. Medalist; in 1936, at the time of his ninetieth birthday, with Herbert Hoover present, the Society made him the only other recipient of the Hoover Gold Medal. The list of his other honors and awards is too long for mention, but it includes the Legion of Honor of the French government and honorary degrees from many colleges and universities.

Ambrose Swasey's list of honors is rivaled in length and brilliance by the list of his benefactions. In a funeral oration delivered at the First Baptist Church, Exeter, N. H., "his mother's church," as he often called it, which one of his ancestors, Elizabeth Swasey, had helped to found in 1800, its minister, the Reverend Howard P. Weatherbee, told of Mr. Swasey's first experience in giving. "He, with his brother," said Mr. Weatherbee, "went out into the woods and chopped a couple of cords of wood and hauled it to the Baptist parsonage where Rev. Noah Hooper lived. It was this Noah Hooper who baptized him in 1864 and who later officiated in his wedding ceremony. But this giving of the wood to the church was his first experience in giving."

Throughout his life Ambrose Swasey continued to give to his church, to educational institutions, to the poor, to science, and to engineering. Many of his benefactions are unknown, but among those that the world knows stands out the gift of \$750,000 with which he set up the Engineering Foundation in 1914. His interest in this project has placed engineers of all societies forever in his debt. Toward the purchase of the site for the building to house the National Academy of Sciences and the National Research Council in Washington he made generous contribution. He was the donor, with Warner, of the Warner and Swasey observatory of the Case School of Applied Science; he gave an observatory to Denison University; he endowed the chair of physics at the Case School of Applied Science, occupied by his friend Dr. Dayton C. Miller; he established a library for the Colgate-Rochester Divinity School at Rochester, N. Y.; he erected a building for the Canton Christian College (now Lignan University), and a science building for the University of Nanking. Mr. Swasey, it is said, was largely responsible for the German government's return to the Chinese of the famous astronomical instruments taken from the Great Wall to Potsdam during the Boxer rebellion. To the little church at Exeter he donated two memorial windows and an organ which he never lived to hear played. For his native town he converted the land along the western bank of the Swampscott River into the Swasey Parkway and in Exeter Square he erected a pavilion.

Mere catchpenny concern with business affairs combined with rare talent and unusual astuteness may build up a great indus-

trial enterprise and win a more than usual amount of earthly riches, but the qualities of character Mr. Swasey possessed endeared him to his friends for himself alone, and the circle of these friends was an ever-widening one which included much more than that of a successful manufacturer could. His city revered him for his civic interests; he had an honored standing in banking circles. Patron of education, his name was known throughout the land and his face and influence were familiar in several institutions. Among scientists he moved as friend, benefactor, and colleague. He rarely missed meetings of the American Philosophical Society and the National Academy of Sciences (two months before his death he had attended a meeting in Washington of the latter) and at these meetings, as in engineering gatherings, he was greeted with friendly affection by young and old. His business associates gave up years ago urging him to spare his strength; he preferred activity to senility which never overtook him. He died, as no doubt he had hoped he would die, with his long career unblighted by the extensive period of illness that saddens family and associates with the spectacle of a broken mind or body, and at the place of his birth and burial. He returned from whence he came.

Friends of Mr. Swasey who best sensed the fine simplicity, sincerity, and humility of his character knew that he valued highly his relationship to the Baptist Church. Whatever success he may have achieved in worldly affairs and whatever satisfaction this may have meant to him were enriched by this spiritual tie to the best traditions of his family and early training. But however spiritual and idealistic this tie may have been, it bound him also to the practical affairs of his church and creed. He served the Baptist Education Society of New York State as its president, the Northern Baptist Convention on its finance committee, and the First Baptist Church of Cleveland as its honorary president. Deeply religious with the calm sanity of one whose art served those who sought out the secrets of the heavens, he is said to have remarked shortly before his death, "There is one thing no telescope will ever be able to do. It will never be big enough to see around the edge."

In 1871 Mr. Swasey married Lavinia Dearborn Marston who died in 1913. There were no children to survive him. Only the memory of a true gentleman remains. The great works and monuments to his industry and philanthropy keep this memory alive; and that asteroid named in his honor "Swazya."—G. A. S.

Facing the Tax Problem

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be reduced if the social-security program is abandoned; it should be increased if unemployment fails to diminish at the rate assumed. It should of course be increased if inflation, another veteran's bonus, or other exceptional events should occur. The important point here is that there may be further increases in total government expenditures. There is little reason to expect a decrease in the total. It is reasonable, however, to expect that curtailment of federal expenses will almost offset the prospective increase in state and local expenditures. Nontax revenue which now supplies about 1.5 billions annually may be expected to increase to about 2 billions; but probably in 1940 some 16 billions of expenses will remain to be financed by loans or taxes.

With a tax burden which promises to remain so large, high efficiency will be demanded of our tax system. To this problem most of the committee's study was devoted. The report merits the thoughtful consideration of all conscientious voters.