Photo by Doris Day

THE ONLY WOMAN WHO HAS BEEN ADMITTED TO OUR NATIONAL ACADEMY OF SCIENCE

DR. SABIN, SCIENTIST

Winner of Pictorial Review's Achievement Award . . . .

By GENEVIEVE PARKHURST

THROUGH its annual achievement award of $5,000, given to the American woman who, by the decision of its distinguished achievement award committee, has made the most distinctive contribution to American life, Pictorial Review now adds a scientist to the growing roster of its Woman's Hall of Fame.

Dr. Florence Sabin, formerly professor of histology at Johns Hopkins University, and now member of the Rockefeller Institute for Medical Research, and one of the greatest living scientists, was chosen for the year 1928 because of her many discoveries in that living world which dwells unseen except by those few gifted and untiring men and women who give their lives to delving into the mysteries that lie beyond the microscope in the hope that they may bring to light newer and better methods of easing old pains.

Dr. Sabin's many noteworthy contributions may sound technical to minds unlearned in scientific vocabulary. I can not, myself, aspire to interpreting them. But viewed in the light of the best scientific minds, she has made a real contribution to the kind of understanding of the disease tuberculosis that must precede our getting the means for its control.

Her work began close to thirty years ago, when, as an undergraduate at Johns Hopkins, she made a model of the brain-stem, which is to-day in use in medical colleges the world over. She was the first scientist to make a complete study of the development of the lymphatic system, that network of tiny vessels which carry fluid back into the blood-stream. By arduous and continuous research she established the centers from which they start to grow.

Next she made a study of the origin of the blood-vessels and the blood-cells. Applying new methods to the study of living cells, she established the relation of the monocyte, which is one of the white blood-cells, to the cell which forms the tubercle. The tubercle is the lesion so characteristic of tuberculosis as to have given the disease its name. For this discovery she was chosen leader of the biological group in a new joint endeavor to study tuberculosis.

The tubercle bacilli having been split by chemists into proteins, sugars, and fats, Dr. Sabin's group has found that the tubercle is produced by the fats, and specifically by a new fatty acid. The purpose of such studies is to find out how the body builds up resistance to tuberculosis, so that we need not be dependent on the long rest-cures.

Now, as I have said, only those who have gone deeply into the nature of these things can understand the magnitude of Dr. Sabin's achievement. It is enough to know that she is acclaimed throughout the world of medical thought as one of the great living scientists. Of her Dr. Simon Flexner, director of the Rockefeller Institute, says, "I suppose that Dr. Sabin is the most eminent of living women scientists. The knowledge she has derived from her studies has led to better understanding of the anatomy, physiology, and pathology of the body in health and in disease, and has been not only of theoretical but of practical value.

"It is of the nature of conspicuous social service to have added to the knowledge of our bodies, well and ill, and thus to have helped make them better instruments for the fulfilment of the purposes of society as a whole."

Dr. William Charles White, of Washington, D. C., adds his praise: "A study of Dr. Sabin's work shows the greatness of her achievement and the character of her mind. She has dealt with the primary and fundamental problem of the cell—the unit of plant and animal life. All through her investigations she has followed the cell, seeking the secret of differentiations by newer and finer methods, both physical and chemical. Always through her work runs the great strong, continuous cord of cell differentiations. This is one of the great concepts of man, for all life begins as a single cell.

"I have known and followed Dr. Sabin's work since her student days, and have lately been more closely associated with her in her tuberculosis studies. She is all in mind and spirit and ideals that man or woman ever accomplishes. She belongs to the great students of both sexes, for when these have the brains and the will to work I see little difference."

But what, from the woman's point of view, is important, because of the dreams she dreams, and of the vision she has of what the future may hold for her, is the fact that Dr. Florence Rena Sabin is the first and, up to the present time, the only woman ever to be admitted to the sacrosanct halls of our National Academy of Science. For what one can do another may aspire to without too much fear of failure.

And it is this great woman's gift, her early and determined zeal to make it serve her purpose, which was the purpose of making it serve the world; her fortitude in going the long way a woman must go when she pioneers a trail, breaking down barriers, scaling heights of prejudice and

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precedence which only a rare woman would have the courage to venture, that make her an outstanding figure in the world of outstanding women.

To persuade Dr. Sabin to talk about herself, to get her to tell me what she has done, was like hunting for the proverbial needle in a haystack when there was no needle there. In answer to my questions she invariably began, "Well, we—." It was from those friends and colleagues who had been associated with her through many years that I gleaned a glimpse of Dr. Florence Sabin the woman, who is also Dr. Florence Sabin the scientist. From them I learned, as I had expected to learn, that she had come to greatness only by fortitude, sacrifice, and consecration.

BORN in Central City, Colo., in 1871, on both sides of her family Dr. Sabin is of old American stock, her ancestors having come from Normandy and England to Massachusetts in 1643. Her father wanted to be a doctor, but, moving to Colorado when the excitement over the discovery of rich deposits of gold and silver was at its height, he became a mining superintendent instead.

In her first school-days Florence Sabin gave evidences of an original turn of mind. Not that she was precocious, but she was always a good student and wanted to find out things for herself. Graduating from an academy in Vermont, she went to Smith College, where she worked her way in part by tutoring in mathematics. In 1893 she received her degree as a bachelor of science. It was her interest in zoology while a student at Smith which prompted her ambition to become a doctor.

In 1893 the Johns Hopkins Medical School was opened. Heretofore neither the university nor the hospital had admitted women as students. But when funds were raised for the medical school one of the largest contributors, Miss Mary Garret, made the stipulation that the medical school must be open alike to men and women. Dr. Sabin was one of its first women graduates.

The following year she was an intern at the hospital. But during this time she was restive. Her heart always was in her ambition for original work—something unattainable, because at that time the doors of laboratories were closed against women. But help was not far away. In 1902 the women of the Baltimore Association for the Promotion of University Education for Women provided her with an endowed fellowship in Johns Hopkins Medical School, and the next year she was appointed an assistant in anatomy. Her career had well begun.

The late Dr. Franklin P. Mall, professor of anatomy at Johns Hopkins, had noticed from her first year in the medical school her gift for original observations. He saw the assiduity with which this quiet, unassuming girl went about her work, never resting until a problem had been mastered, and going ever farther and farther into that world that can be seen only through a lens, returning often with new observations. It was at his suggestion that she began her study of the lymphatic system, discovering that the lymphatics, instead of growing from small openings in the tissue, in most instances sprouted from the walls of the veins.

It was for this work that she was awarded the first prize offered for research by a woman by the Naples Table Association. This association, supported by the women's colleges and a few private subscribers, was formed in recognition of the signal service of the late Professor Anton Dohrn, director of the Biological Station at Naples, who was the first to admit women to a laboratory for independent research. This association, now called the Association to Aid Scientific Research by Women, still maintains a research table in the Naples Laboratory; and Dr. Sabin is one of its most ardent members.

In 1913 Dr. Sabin was given leave of absence from the Johns Hopkins University to study at the University of Leipzig. Later by working with living chick embryos she was able actually to see the birth of the first blood-vessels, to watch the first beats of the heart, and to show that the red corpuscles develop from the walls of the veins. It was for this work that in 1924 Dr. Sabin was made a member of the National Academy of Science.

In 1925 Dr. Sabin was called to the Rockefeller Institute for Medical Research, again being a first, inasmuch as she was the first woman ever to be appointed a full member of its staff. Her department at the institute is engaged in the study of tuberculosis and the diseases of the blood.

Only by a complete devotion to her work has Dr. Sabin come to her large place in the world of science. Altho she puts aside with a smile any hint that her way was not always easy, those who have followed her career closely, as associates and as friends, declare that being a woman set many obstacles in her path. Wherever she triumphed it was by harder work and under greater difficulties than men would have encountered in the same circumstances. But she, herself, was never concerned with gaining credit.

Her one desire was to make the best contribution that she could toward easing humanity's pain. And this she did at real personal sacrifice. In her earlier days she was poorly paid—for science even today does not receive fair emolument in comparison with the rewards accorded other fields of work. With her undoubted talent she could easily have gone into private practise, where she could have accumulated a more than comfortable competence.

"I am sure," said an old friend, "that such a thing never entered her mind. Her whole life was in her work and what it might mean to the cause of women. She is never too tired to help other women doctors who come to New York to make their way. She gives of herself and of her time and of her money, so that the way shall be made easy for all women who wish to do worth-while work in a world which is as yet not quite ready to receive them on an equal footing with men."

At present Dr. Sabin's chief hobby is the movement to bring the best of medical care within the reach of those millions who, neither rich nor poor, can not afford to pay the mounting costs of illness. "The rich," Miss Sabin explained to me, "can pay when they have to pay. The poor receive free treatment from skilled specialists and can go, when necessary, to hospitals free of charge. But between seventy-five and ninety per cent. of our population, that which constitutes our very backbone, find it difficult to be relieved from the intolerable burden of illness. As it is now, the rich are overcharged to pay for the poor. This is not fair, either. And so a group of women physicians in New York City have formed what is known as the Gotham Hospital Plan, the idea of which is to endow the patient instead of the hospital.

"We all know that when a hospital receives an endowment, it does not go to reduce the cost to the patient. It goes to build new wings, to increase staffs, to buy further equipment. The Gotham Hospital, for which enough money has been raised to purchase its site, will decrease the cost to the patient. To illustrate: It is now almost impossible for a patient in a hospital to escape at less than $100 a week, and this is a minimum cost. The cheapest room is $60 a week, and those who go in wards, where there are two or three or four patients, must pay at least $40. If a special nurse is needed it adds $50 a week, plus the cost of her board; if a day and night nurse, the price is doubled.

"IN THE Gotham Hospital, if a patient can pay only $3.50 a day, she will pay that much, and the patient's endowment fund will meet the deficit. As we increase our scope we shall always keep intact the fund for the endowing of the patient. New buildings and equipment and larger staffs will have to be secured from other funds."

One might think that a woman who had given herself over so entirely to the difficult and absorbing deepnesses of science must in time come to lose touch with the life around her, and particularly

with all those things which go to make up a woman's world. With Dr. Sabin this is not so. She has a real flair for domesticity. In her simple apartment she does her own cooking, and her talents for it are chef-like in quality. When she is entertaining those who have been taken into her life in close friendship, she dispenses with her maid, and both cooks and serves the delightful meal which she sets before them.

As busy as she may be, she finds time for keeping up with all the best that is being written in fiction and biography. She is interested in art, and has acquired rare examples of Oriental art in porcelain and print. Musically minded, only some compelling duty keeps her away from the Philharmonic concerts.

That women can and will, in numbers, receive adequate opportunity and recognition in scientific work as they have in other fields of endeavor, Dr. Sabin is sure. "But," she added, "they must be prepared to work hard for the work's sake, without thought of what it may bring to them in the way of personal acclaim and emolument. While scientific research is exciting it has its dull and plodding moments. One may delve and delve and analyze and analyze for months, and even years, without seeing anything. Then suddenly, through accumulative observation, the idea comes!"

Dr. Sabin was persuaded to acknowledge that often she worked long hours, day in and day out, week after week. "I did it because I wanted to, not because I had to. I loved it and still do love it. That is what women must have in addition to diligence—a real and absorbing devotion to their work. They need now to have a bigger body of work to show.

"I think, considering what they have had to fight against, that women have been wonderful. I see no end to their development in science, as in the arts and professions and in business, if they have the will to work."