

THE POLIO MAN

The Story of Dr. Jonas Salk

JOHN ROWLAND



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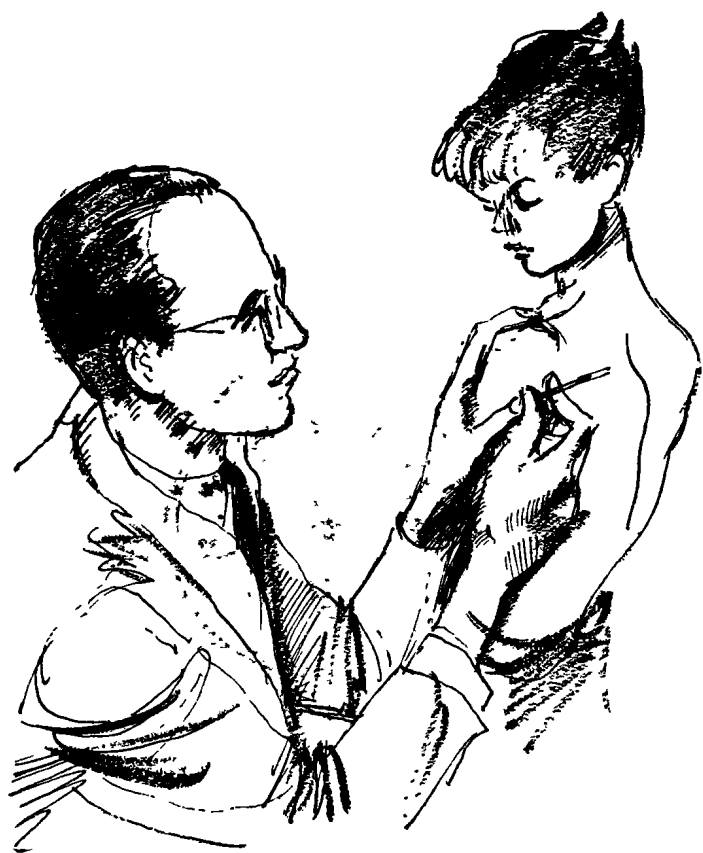
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To

Dr. Katharina Dalton

**this story of a great doctor in a very
different field from hers**

FOREWORD

THE author is deeply indebted to the United States Information Service at the American Embassy in London, for ready assistance with background information, and for the loan of a number of books, including one quite indispensable source-book, *Polio and Its Problems*, by Roland H. Berg. This, while it contains nothing of the detailed work which led in 1955 to the Salk vaccine (it was published, indeed, in 1948) has a vast mass of information on early research on polio in the United States and elsewhere, and has been much drawn upon for the historical facts in the present volume.

Thanks must also be offered to the authorities of the Mount Sinai Hospital, New York, for gladly providing information about that Institution. The authorities of the New York University College of Medicine also provided much valuable information about the history and development of the College.

CHAPTER ONE

NEW YORK STUDENT

NEW YORK! To so many young people, all over the United States of America—indeed, all over the world—it is the most fabulous of cities, and yet a city whose districts and whose streets are familiar, since they have been seen a thousand times in films.

The Bronx and the Bowery, Manhattan and Long Island, Wall Street and Broadway—these names have to many people become almost the basis of a modern fairy-tale. It is a tale of happiness to some and heart-break to others, for no place can be more lonely than a great city, and many of the young people who come to New York seeking fame or fortune find that they have few friends there.

It was not so, however, with young Jonas Edward Salk, when on a momentous day he walked for the first time up the steps of City College, New York. A diffident young man, he was not at all sure that he would be able to pass all the difficult examinations that lay ahead; but at least he knew that he would not be lonely. He was born in Upper Manhattan, New York, on October 28, 1914; and except for holidays in the mountains he had lived all his life in and around the city. Its streets, its sidewalks, its subways, were as familiar to him as the fields and hedgerows would be to a farmer's son.

He had some nervousness, however, as he started work at College—though, indeed, he need not have been nervous

about his ability. He had gone through the normal educational career of a young American in the days following the First World War, attending grade school and showing brightness and intelligence on which his early teachers reported with pleasure. He had his moments of mischief, too, but that did not worry anyone, least of all his parents, because they felt that he should be given his head; and in any case his father, a shrewd and knowledgeable man, was certain that only the boy with a healthy amount of mischief in him would be likely to make his way in the world. Mr. Daniel Salk thought that the boy who was too obedient was the boy who was likely all his life to do what he was told, and was certainly not the boy who would think things out for himself.

Even in schooldays Jonas Salk wanted to think things out for himself. Sometimes he asked awkward questions which his teachers found it difficult to answer—but this faculty of asking awkward questions was to stand him in good stead later on, when he came to pursue the difficult paths of scientific and medical research. The man who tries to study the way in which disease develops is really asking awkward questions of nature, as is every research scientist.

Jonas Salk's awkward questions in his schooldays led him to a special school. This was known as the Townsend Harris High School; it had been established, as a kind of experiment, to see if it would be possible to pick the brightest children over a wide area and give them special teachers and special teaching. It was described as a "secondary school for exceptional students". Just what proportion of those exceptional students justified the honour that was paid them at an early age it is impossible to say—but there can be no doubt that Jonas Salk was one of them. A teacher of his early days has called him a boy "who read everything that

he could lay his hands on". He had hobbies, he played the games of the day, he threw himself with equal enthusiasm into everything which he attempted. When he went to college, he continued many of these interests, though he was now getting more and more interested in medical questions of one sort and another—and when he was granted his degree in 1934, it was that of a Bachelor of Surgery.

The lectures were absorbing; even more so were dissections of muscles and nerves, the studies of the way in which the human body worked. He was especially interested in the substances called proteins, which make up the basis of body-building foods; and fairly early on in his career as a medical student he had already read a good deal of the curious little things called viruses—smaller than the germs which cause so many diseases, and yet themselves able to cause disease in human beings, in animals, and in plants.

Jonas was not, however, a pure research worker and nothing else. He knew that even though there might be a temptation for a doctor to think of his patients as machines, a doctor who did that would probably not be very successful. He needed to know the technique of his job—indeed, during some of the long holidays that came his way while he was a medical student, he worked as a laboratory technician for the professors and lecturers, gaining extra skill in making microscope slides and in carrying out all sorts of medical and chemical tests, watching the leading doctors of New York setting about their complicated tasks. Another summer he went to a boys' camp outside New York, where he was engaged as what was known as a "counsellor"—helping the boys to iron out some of their problems, settling their arguments, and all the while learning more

about human nature. During the years Dr. Salk was at college, he was gaining in experience and in knowledge, until at the time of his graduation he was one of the outstanding students of his year.

Especially was he fascinated by the viruses. He thought much of a lecture he had heard, in which the lecturer had said that most of the diseases which were caused by infections of these mysterious things were really diseases of the proteins of the human body. This might be said of influenza, a virus disease which seemed to have completely defied the doctors; it might also be said of poliomyelitis, sometimes called infantile paralysis, but more often shortened to "polio", which had stricken many thousands of people, from Franklin D. Roosevelt downwards.

Viruses were much more difficult to track down than ordinary germs, if only because they were so small. The polio viruses, for instance, were so tiny that twenty-five million of them would go on the head of a pin. Ordinary germs could be seen by a good microscope—he had seen many of them in the course of his medical studies, and he had learned to identify them by their size and shape. But viruses could not be seen under a microscope; it was only by the symptoms of the diseases that they caused that they could be recognized. This was the main reason why such diseases worried and puzzled most of the doctors.

Dr. Salk read all that he could find about viruses and the diseases that they caused. Especially the problem of infantile paralysis fascinated him, even in those early days. He learned that it was not a new disease, though most people thought of it as being something that was only known in modern times. Ancient Egyptian paintings showed people who had obviously been crippled by it; a five thousand-year-old skeleton had been dug up in Egypt, and an ex-