

## Prologue

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It is late May 1873, springtime in the Harz Mountains in northern Germany. Flowers are in bloom, birds are singing, but in the home of Heinrich Krüger, a cattle dealer in the village of Schwenda, there is sorrow and despair. Thirteen-year old Hermine Krüger has suffered from diphtheria since the autumn of 1872. Now her condition is deteriorating. She has severe abdominal pain, a forced and wheezing respiration, strong sweating, no appetite.

Oscar Hasse, a well-known doctor from the town of Nordhausen some 40 km away, is called for. Upon arrival, he finds Hermine in bed, with a pale, bloated appearance, short, groaning breath, very weak and rapid pulse. It turns out that she also suffers from a severe bronchial catarrh. She is so weak that, to sit, she has to be supported by several persons – she cannot keep her head up. The various tonics prescribed have been of no use. She seems beyond salvation.

Upon the urgent demand of the family, Hasse decides to perform a blood transfusion but not, as he has previously done, with human blood. The girl's relatives are just too weak themselves. Instead, a strong six-month-old lamb is procured. Hasse ties it to a board, exposes its carotid artery, and closes it temporarily with a clamp. He then inserts a glass tube into the vessel and connects it to a rubber tube containing a carbonate of soda solution. A second glass tube is inserted into the *vena mediana* of the sick child. The lamb is brought into the sick room and laid next to the patient with its neck close to the girl's arm. Hasse unfastens the clamp and lets the lamb's blood push out the soda solution. He then swiftly connects the two cannulas with the rubber tube. Propelled by the heartbeat of the lamb, its blood now flows into the child.

And behold! The transfusion is an ordeal, but the girl's forces return. She sleeps well, eats with an appetite, and has no more stomach pains. Hasse brings her to Nordhausen for treatment with gymnastics and galvanic cur-

rents to strengthen her muscles after almost a year in bed. By the end of the summer, Hermine Krüger seems fully restored.<sup>1</sup>