

G A L E N  
*and the Gateway to Medicine*

by JEANNE BENDICK

Pictures by the author



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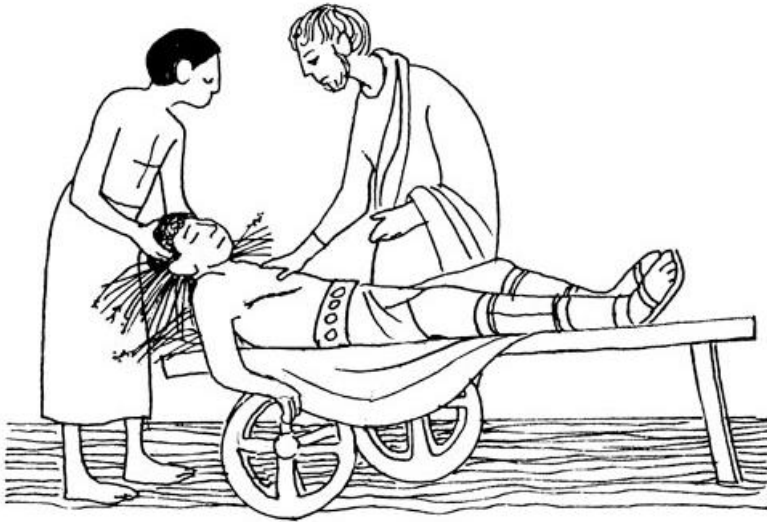
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*To all the doctors who look after us*



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# Introduction

Human beings find the truth about things very slowly, with much effort, and with more than an occasional wrong turn. As Aristotle, the great Greek philosopher, rightly said, our minds are to the truth, as the eyes of bats to the sun. In short, progress in knowledge generally follows a rather winding path, guided as much by the educated guesses of the explorers as by the nature of what is being explored.

That having been said, some are better at guessing than others—or to be more exact, some guesses are more educated than others. The men of great genius, whose contributions advance human theoretical and practical knowledge by great leaps rather than little steps, always prepare themselves well by attending carefully to the contributions of those who come before them.

Galen's genius, in great part, lay in his sorting through all the best in medical knowledge that had been handed down by the Greeks, separating the good from the bad, and building upon the good. Born at the height of the Roman Empire, in the second century A.D., Galen pulled medicine from the thickets into which various confusions and controversies had led it, and set it on a straight path again.

If we can judge the genius of Galen insofar as his account of the art of medicine influenced later generations, then Galen was the greatest physician of all time. He corrected Greek medicine, and gave it to the Romans. The roads from Rome carried Galen's works all over the Empire. After the Empire had fallen, and its famous roads were broken and overgrown, Galen's influence only grew, moving through the Byzantine empire and the Arab-Islamic world, into the Middle Ages and beyond. Though the path Galen cut had ultimately to be corrected, his writings dominated medical thought in the west for nearly a millennium and a half, from the 2<sup>nd</sup> century AD to the Renaissance.

Even that is not praise enough, for Galen was not merely a physician, but a philosopher. To be more exact, he entered into the medical debates of his day as both philosopher and physician. Consequently, his presentation of medicine is part of a larger argument about nature and human nature. When we seek to measure the influence of Galen on later generations, then, we find it not only in medicine, but in literature, art, philosophy, and theology as well.

What then did Galen think? Why was it so important? It is not my task in this introduction to provide an outline of Galen's thought, and thereby enter into a competition with the pages that follow. And happily so. As readers of Jeanne Bendick's delightful minor classic *Archimedes and the Door of Science* will readily agree, it would be a competition in which I could only hope to come in a distant second.

I do hope, however, to have whet the reader's appetite. As should be evident by now, to be unfamiliar with Galen is to be ignorant of much that has moved and guided western thought. For this reason, Jeanne Bendick's *Galen and the Gateway to Medicine* is a most welcome book, one that should be on the shelf of every library as well as every serious home educator.

Yet Jeanne Bendick does much more than present the outlines of Galen's thought. She introduces the reader to Galen's thought through an engaging presentation of Galen the man. Even apart from the history of medicine, Galen's life is fascinating in and of itself. Imagine getting one's training as a doctor, by becoming a trainer and doctor of gladiators! Imagine pursuing one's medical education through perilous sea and land journeys! Imagine being the physician to Roman emperors!

*Galen and the Gateway to Medicine* could most accurately be described, then, as an adventure book—an adventure of medicine and philosophy not in some abstract sense, but as lived by the man whose adventure it was. It is written for the young, but as with Bendick's *Archimedes*, it is written so well, that teachers and parents will also delight in it and learn from it. That, as C. S. Lewis once said, is the sign of a truly good children's book.

Benjamin D. Wiker

## **Essay Questions for Student Writers**

- (1) Galen was the physician to the Roman emperor Marcus Aurelius. Marcus Aurelius was not only an emperor, but a famous philosopher as well. Find out what he believed and wrote.

- (2) Marcus Aurelius was considered a wise and humane emperor. His son Commodus, however, was not. Find out some of the reasons for Commodus' bad reputation.
- (3) Another very famous scientist, Claudius Ptolemaeus, was living about the same time as Galen. We call him "Ptolemy," and remember him primarily for his contributions to astronomy. Investigate Ptolemy's view of the universe, and how it differs from ours today.
- (4) A famous Christian, St. Irenaeus, was also a contemporary of Galen. Write a short sketch of St. Irenaeus' life.
- (5) Galen got his start as a physician to gladiators. Find out the names of Rome's most famous gladiators, and how they fought.
- (6) Gaius Suetonius Tranquillus (70?–130?), known to us as Suetonius, was an historian who lived when Galen was young, and wrote about the Roman emperors. What did he think about them?
- (7) Of himself, Galen boasted "I have done as much for medicine as Trajan did for the Roman empire." Who was Trajan, and what did he do for Rome?
- (8) After the time of Galen, no one rose to the stature of Galen as a physician until the Islamic physician and philosopher Avicenna, born near the end of the 10<sup>th</sup> century. What contributions to medicine did Avicenna make?



## 1. Who Was Galen?

GALEN WAS a doctor who practiced medicine almost 2,000 years ago.

He was doctor to four Roman emperors, so Roman history could have changed if he made mistakes.

He was a doctor who tended the wounds of gladiators—wounds by sword, spear and the teeth of wild animals.

He was a doctor who had to learn about the human body from studying pigs and monkeys.

He was a doctor who invented and recorded so many medicines that some are still used today.

He was a doctor whose theories seemed so accurate that his ideas were taught and followed for almost 1,500 years.

He was Dr. Galen (GAY-len), the most famous doctor and scientist in the Roman empire.

Galen was born on September 22, in the year 129 (or maybe 130) in the Greek city of Pergamum (PUR-gum-um). In Galen's time, Greek people had only one name, but Romans had a string of names. The Roman emperor, in 129, was named Publius Aelius Hadrianus. But he is known, simply, as Hadrian. (HAY drey-an)





HADRIAN

About 250 years before Galen was born, the last ruler of Pergamum had given his city-state to Rome on the condition that Rome would protect its independence. But the people who lived there still considered it a Greek city.

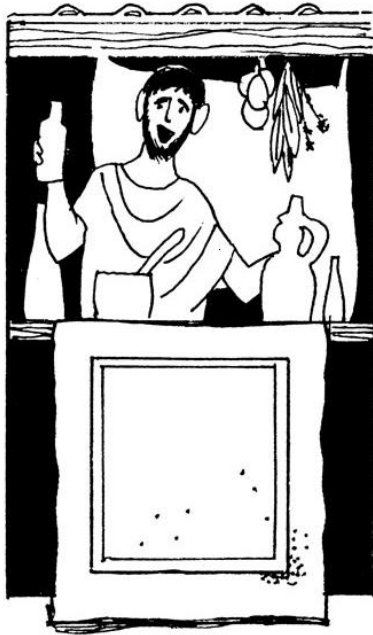
By the time Galen was born, the Romans had conquered all the lands around the Mediterranean Sea, much of Europe (including England), part of Africa, the whole Middle East and some of Asia. If you look at the map you can see how huge the Roman Empire was. You can see the city of Pergamum on the map, twenty miles from the Aegean (ih-JEY-en) Sea. (Today, Pergamum is called Bergama. It is in Turkey.)



What was so special about being a doctor in the second century? There were a lot of doctors then, but many of them had little medical training. A few did go to medical school. Others learned to be

doctors by following other doctors around as apprentices, in much the same way as ironsmiths or weavers learned their trades. They learned by watching. There were no formal requirements for being a doctor—you just announced that you were one and that you were in the doctoring business. If you were fortunate enough to cure somebody you attracted more patients, otherwise you soon tried another profession.

Doctors might wander from place to place like traveling tradesmen. Some set up stalls in the marketplace, where they gave advice, sold cures, and offered first aid for simple problems.

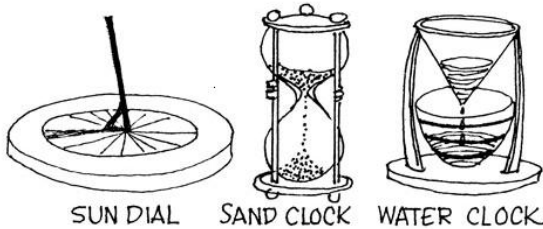


In the second century people had many of the same health problems and diseases we have now, but there weren't many ways of treating them. Garlic and honey were the most trusted cures. Everyone ate garlic, raw and cooked. They drank garlic juice, rubbed it on, and wore garlic cloves around their necks. Honey was eaten, made into drinks, and smeared on wounds.

Doctors were only beginning to have ideas about what caused diseases. And even if they had known, they didn't have the medicines we have today. There were no vaccines, antibiotics, penicillin or sulfa drugs. There were no anesthetics. There wasn't even aspirin.

No one could see inside a living body.

X-rays and body scans were thousands of years in the future. It would be more than a thousand years before someone invented the thermometer for taking temperatures or the stethoscope for listening to hearts and lungs. Nobody had even invented a proper clock with which to time a pulse. (You couldn't time a pulse with a sun dial, a sand clock or a water clock.)



The workings of a human body were a mystery.

Was there some spirit inside that made people alive?

What, really, did the heart do? Did it control thinking? Or was it just a furnace to heat the blood?

Where did blood come from? How did blood begin? How did it move through the body? Were there different kinds of blood?

Where was air in the body? Was it in the veins?

What did the lungs do? Did they cool the heart?

Did something in the liver make you brave?

Was gloominess centered in the stomach?

There was so much to figure out.

Galen's ambition was to learn everything about the human body. He studied and taught and wrote about anatomy—how a body is made, how its parts are arranged and how the parts work together.

Galen believed that anatomy was the foundation of medical knowledge. But in Galen's time, dissection of humans—the cutting open of a dead body—was forbidden. This had not always been so, but now Greek religion said that dissecting dead people was dishonoring the dead. So most of what Galen knew about anatomy he learned from studying oxen and dogs, monkeys and pigs. Many of his ideas about how human body parts functioned were based on the animals he studied. (You can see how this led him to make some mistakes.)