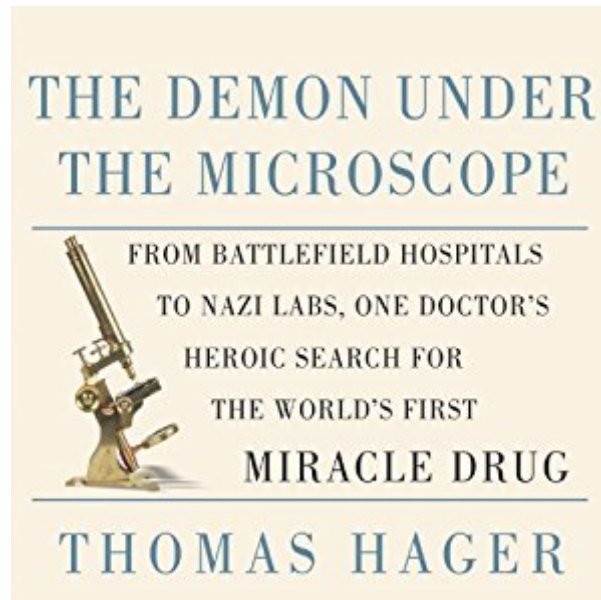


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# The Demon Under The Microscope



## Synopsis

The Nazis discovered it. The Allies won the war with it. It conquered diseases, changed laws, and single-handedly launched the era of antibiotics. This incredible discovery was sulfa, the first antibiotic. In *The Demon Under the Microscope*, Thomas Hager chronicles the dramatic history of the drug that shaped modern medicine. Sulfa saved millions of lives—among them those of Winston Churchill and Franklin Delano Roosevelt Jr.—but its real effects are even more far reaching. Sulfa changed the way new drugs were developed, approved, and sold; transformed the way doctors treated patients; and ushered in the era of modern medicine. The very concept that chemicals created in a lab could cure disease revolutionized medicine, taking it from the treatment of symptoms and discomfort to the eradication of the root cause of illness. A strange and colorful story, *The Demon Under the Microscope* illuminates the vivid characters, corporate strategy, individual idealism, careful planning, lucky breaks, cynicism, heroism, greed, hard work, and the central (though mistaken) idea that brought sulfa to the world. This is a fascinating scientific tale with all the excitement and intrigue of a great suspense novel. For thousands of years, humans had sought medicines with which they could defeat contagion, and they had slowly, painstakingly, won a few battles: some vaccines to ward off disease, a handful of antitoxins. A drug or two was available that could stop parasitic diseases once they hit, tropical maladies like malaria and sleeping sickness. But the great killers of Europe, North America, and most of Asia—pneumonia, plague, tuberculosis, diphtheria, cholera, meningitis—were caused not by parasites but by bacteria, much smaller, far different microorganisms. By 1931, nothing on earth could stop a bacterial infection once it started. . . . But all that was about to change. . . . —from *The Demon Under the Microscope* --This text refers to the Preloaded Digital Audio Player edition.

## Book Information

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## Customer Reviews

On behalf of most of the Moms I know, I will admit that I have taken a child to the doctor with a sore throat and said the following out loud, "Well, I kind of hope it's strep so they can just put him/her on an antibiotic and he/she will be able to go back to school in a day or so." Well, when our grandparents were small children...people DIED from strep! In large numbers! Something like 1 in 4 women who gave birth in certain hospitals died from something called "childbed fever". More people in WWI died from infection than from war wounds. In WW1, Gonorrhea (the clap) was second only to the flu as a cause of disability and absence from duty. This was in a time when people had electricity, cars, telephones and movies...but they could not cure easily transmittable diseases from which people died! The simple solution to these infections and diseases was a class of drugs using Sulfa as the active ingredient. The story of how these drugs were discovered, developed, tested and used spans several decades and countries and had far-reaching effects on our current system of drug research and testing. At the beginning of the Sulfa era, people were still buying "patent medicines" which were unproven at best and dangerous or fatal at worst. The country's food and drug laws had no teeth...a perfect example being when a drug was found to have killed almost 100 people, the company which produced it could not be tried for negligence or murder, but could be tried for mislabeling! The story is fascinating. The "characters" involved are as complex, heroic and villainous as characters in fiction. And the narrative moves along at a clip that fiction readers can deal with. The Demon Under the Microscope is meticulously researched without those annoying footnotes on every page.

Some dolt on a bicycle slammed into me yesterday. Fortunately I did not break any bones, but the bruises are giving me an uncomfortable time since then. After rinsing both knees with chlorhexidine and iodine, I was not concerned; if there was an infection, antibiotics would take care of it. But it wouldn't have been that way seventy years ago, when the most you could do to prevent a wound from getting infected...was wait, and perhaps apply some crude remedies. That was how it had been for two hundred years. For all the progress we had made, bad bugs still mostly got the better of us. It is appalling that about fifty percent of deaths in WW1 were from infections that riddled shrapnel wounds, and not from explosives or gunfire themselves. Once infection set in and gas gangrene made its hideous appearance, all one could do was wait, and maybe hope that the

suffering would end soon...until sulfa drugs appeared on the scene. That era of sulfa drugs, and not the one of penicillin, was the first heroic age of antibiotics. Most of us, if asked to name the first wonder-drug antibiotic, would name penicillin. But long before penicillin, sulfa saved thousands of lives. Without sulfa around, Hoover's son died. With sulfa, FDR's son, and Winston Churchill, survived. Thomas Hager has done an excellent job in bringing this forgotten but extremely important story to life in "The Demon Under the Microscope". The former biographer of Linus Pauling has shown us how different it was to suddenly have a drug that cured infections that previously would have almost certainly killed you.

Everyone knows how penicillin revolutionized medical treatment of infections, most know about how Alexander Fleming discovered it, and some even know how Howard Florey and Ernst Chain took the discovery and made it something that could be used practically. Everyone knows that penicillin was a miracle drug, but almost everyone has forgotten that it was not the first miracle drug. The sulfa drugs came a decade before, producing unprecedented cures that physicians and patients thought of as miraculous; and then the penicillin-type antibiotics surpassed them. The history of the sulfa drugs is told in The Demon Under the Microscope: From Battlefield Hospitals to Nazi Labs, One Doctor's Heroic Search for the World's First Miracle Drug (Harmony Books) by Thomas Hager. It is clear that sulfa deserves much more attention in the history of medicine than it has gotten. By some definitions, since they are not made by living organisms, sulfa drugs are not really antibiotics, but they certainly fought microbial infections in their time, and got medicine beyond the limits of mere antisepsis or disinfecting. They also proved a model for scientific evaluation of drug effectiveness. Chances are that you have never even heard the name of the doctor whose work is the backbone for this story, Gerhard Domagk. Domagk makes a tenacious but unspectacular hero, working day after day through clinical trials, mostly with mice, but he was inspired by his harrowing experiences as a medic in the First World War to fight against the infections he had seen there caused by the strep germ, a feared killer, one that killed in many different ways, infecting tissue, blood, or spinal fluid. For five years, there were no results of his labwork, until he was sent a molecule with sulfonamide attached to it.

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