

## Great Feuds in Medicine: Ten of the Liveliest Disputes Ever

by Hal Hellman

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REVIEWED BY STEVE HORWITZ  
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Reading a book about the most famous medical disputes in history teaches you two things: first, when time traveling, don't go back to the 16th century to get that arterial wound fixed up. Second, despite mountains of common sense to the contrary, aliens have already landed on earth.

The word aliens isn't written anywhere in Hellman's book, but if the past is any indication, and it usually is, some seemingly outlandish theory shunned by the present scientific community will be proven conclusively in the future. That certainly seems to be the recurring theme of *Great Feuds in Medicine*. The 'feuds' revolve mainly around the struggles of pioneering scientists to garner acceptance for their revolutionary theories. In ten similarly organized chapters, Hellman competently takes the reader through a case study of each. The message is clear: if you intend to challenge the norms of scientific convention, be prepared for a defaming, exhaustive fight for recognition. But Hellman is never preachy or condemnatory—like any good historian he simply presents the facts and keeps the conjecture and hearsay to a minimum. The chapters are focused enough to maintain the book's momentum, yet well developed enough to allow a sufficiently complex description of the conflict. The adeptness with which Hellman communicates these complex scientific problems is a credit to his smooth, lucid style.

Many scientists in *Great Feuds in Medicine* had to struggle against the dogmatic, almost instinctual resistance to change that has prevailed throughout intellectual history. Ramón y Cajal, who discovered the mechanism for nerve impulses in the brain in 1905, put forward his theory at a time in which "many, perhaps the majority of pro-

fessors... despised the microscope, considering it even prejudicial to the progress of Biology." Which is like trying to buy a plane ticket with one of those cardboard American Express cards they put in new wallets.

In fairness, the medical community is no different from the rest of the world when it comes to change. And each discovery required the destruction of an already established idea. The more entrenched the previously held theory, the fiercer the opposition to change. When Ignaz Semmelweis argued in 1849 that the most effective way to lower the extremely high mortality rate of women during childbirth was for obstetricians to wash their hands, the medical establishment was justifiably unsettled knowing the death of so many patients could have been easily prevented.

In such a light, Semmelweis' dismissal from his hospital job seems unfortunate but in-avoidable.

Oftentimes, concrete proof was not available to substantiate these theories because the ideas were often years ahead of technological confirmation. In the case of William Harvey, who theorized in 1628 that blood circulated continuously throughout the body, his ideas were not vindicated until four years after his death, when Marcello Malpighi used an improved microscope to prove that tiny capillaries throughout the body facilitated the circulation of blood between veins and arteries.

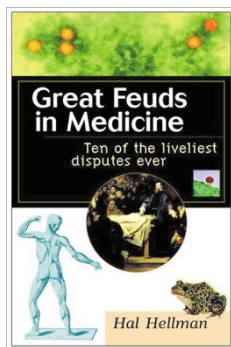
More recently, the crux of the feuds seems to be the glaring media spotlight diluting the pupils of scientists like Louis Pasteur, the architect of germ theory, and Robert Gallo, who discovered AIDS. Pasteur became a bigger target for the French antivivisection movement (the PETA of the 19th century) after his successful demonstration of both a rabies and anthrax vaccine on animals. Would the antivivisectionists have preferred he use orphans as controls? And Gallo was so tormented by the American press following his discovery of the AIDS virus that he once stated in exasperation that "six good years" had been robbed from his productive life.

With such opposition constantly swirling against each historic discovery, these scientists needed to be so consumed with uncovering the truth that they could block out the upturned noses and vicious slander of character and reputation. Perhaps in this light, it's a credit to the per-

severance of these individuals that any of their ideas ever came to be accepted.

But not all of Hellman's watermarked feuds damaged the life of the protagonist. In several instances, the competition for discovery wound up enriching the result, leading to quicker, safer and more effective treatments. This is especially true in the wonderfully well-written chapter about the competition for a polio vaccine between Albert Sabin and Jonas Salk. Though Salk was the first to create a vaccine, Sabin's version (which was ready the following year) was cheaper to make and could be administered orally, giving it a huge edge over Salk's in helping to stamp out the worldwide epidemic. Arguably, without both vaccines, the task of eradicating polio would have been infinitely more challenging.

So the next time you're sitting in your backyard with a camera and a greenish glow engulfs your lawnchair and lifts you up into a strange, floating spaceship, think about the struggles of Salk, and the hardship of Harvey. But don't forget about Luigi Galvani. In trying to prove the existence of "animal electricity", he staged some bizarre public spectacles in which he electrocuted severed animal heads, and even the head of a recently executed murderer. This caused the eyes to begin twitching about spastically like at a séance. After that, his work became synonymous with circus entertainment, and his scientific reputation suffered. A fitting cautionary tale, if you're a scientist submitting UFO photos to the *National Enquirer*. Pick up a copy of *Great Feuds in Medicine* and don't say you were never warned.



## The Lady Tasting Tea: How Statistics Revolutionized Science in the Twentieth Century

by David Salsburg

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The word 'statistics' has two meanings—the use of numbers to describe whole patterns of activity (for example,