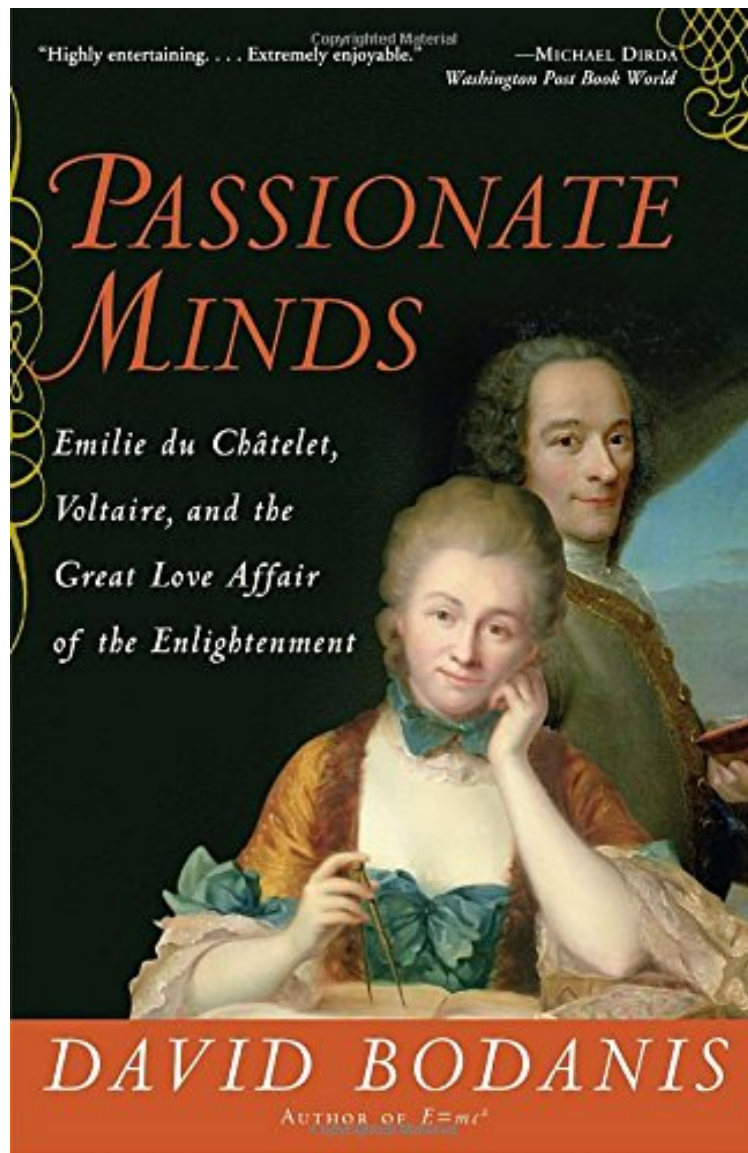


Passionate Minds: Emilie du Chatelet, Voltaire, and the Great Love Affair of the Enlightenment

David Bodanis

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David Bodanis : Passionate Minds: Emilie du Chatelet, Voltaire, and the Great Love Affair of the Enlightenment before purchasing it in order to gauge whether or not it would be worth my time, and all praised Passionate Minds: Emilie du Chatelet, Voltaire, and the Great Love Affair of the Enlightenment:

1 of 1 people found the following review helpful. If you love history, romanceBy JSBThis was my first exposure to Voltaire and to Madam Chatelet. What a thrilling ride! I come away with enormous respect for both of their contributions to science and philosophy, but with special admiration for M. Chatelet and for what she managed to accomplish when women were trapped in social anonymity. If you love history, romance, mathematics, science, intrigue, and/or philosophy, this is a must read.0 of 0 people found the following review helpful. Sheds terrific light on early 18th century FranceBy cyberstuA worthy read. Sheds terrific light on early 18th century France, particularly the role of women. Du Chatelet is a fascinating character who needs to be more widely recognized for her role in framing Newton's work in a more understandable light and in setting the framework for later developments. And the book also provides for a most readable biography of Voltaire.0 of 0 people found the following review helpful. Fascinating look at a great thinker who was born ahead of her timeBy sheri robeVery intriguing look at this brilliant woman who was seeking answers to deep questions of life and how things work while also seeking companionship and acceptance on a personal level. Her ability to overcome the conventions of her time and the restrictions put on her by virtue of merely being a woman make her quite a role model. She was supportive of Voltaire and encouraged him to become more than he may have become on his own, until his own selfish behavior pushed her away and they continued on as close friends until her death. An unusual couple with fascinating lives.

It was 1733 when the poet and philosopher Voltaire met Emilie du Chtelet, a beguilingand marriedaristocrat who would one day popularize Newtons arcane ideas and pave the way for Einsteins theories. In an era when women were rarely permitted any serious schooling, this twenty-seven-year-olds nimble conversation and unusual brilliance led Voltaire, then in his late thirties, to wonder, Why did you only reach me so late? They fell immediately and passionately in love.Through the prism of their tumultuous fifteen-year relationship we see the crumbling of an ancient social order and the birth of the Enlightenment. Together the two lovers rebuilt a dilapidated and isolated rural chateau at Cirey where they conducted scientific experiments, entertained many of the leading thinkers of the burgeoning scientific revolution, and developed radical ideas about the monarchy, the nature of free will, the subordination of women, and the separation of church and state. But their time together was filled with far more than reading and intellectual conversation. There were frantic gallopings across France, sword fights in front of besieged German fortresses, and a deadly burning of Voltaires books by the public executioner at the base of the grand stairwell of the Palais de Justice in Paris. The pair survived court intrigues at Versailles, narrow escapes from agents of the king, a covert mission to the idyllic lakeside retreat of Frederick the Great of Prussia, forays to the royal gambling tables (where Emilie put her mathematical acumen to lucrative use), and intense affairs that bent but did not break their bond.Along with its riveting portrait of Voltaire as a vulnerable romantic, *Passionate Minds* at last does justice to the supremely unconventional life and remarkable achievements of Emilie du Chteletincluding her work on the science of fire and the nature of light. Long overlooked, her story tells us much about womens lives at the time of the Enlightenment. Equally important, it demonstrates how this graceful, quick-witted, and attractive woman worked out the concepts that would lead directly to the squared part of Einsteins revolutionary equation: $E=mc^2$.Based on a rich array of personal letters, as well as writings from houseguests, neighbors, scientists, and even police reports, *Passionate Minds* is both panoramic and intimate in feeling. It is an unforgettable love story and a vivid rendering of the birth of modern ideas.From the Hardcover edition.

Passionate Minds is both glorious and heartbreaking. For two centuries Emilie du Chtelet has been a quiet heroine, her name rarely invoked outside the science classroom. Now David Bodanis has not only brought her to life, but also uncovered one of the great love affairs of the eighteenth century.Amanda Foreman, author of *Georgiana: Duchess of Devonshire*Installs Emilie in the front row of the pantheon of Enlightenment natural philosophers.The Times (London)Fast-paced, engrossing, and enlightening, *Passionate Minds* is a cant put it down reada mlange of colorful, fascinating characters, and ideas captured in an irresistible mix." Barbara Goldsmith, author of *Obsessive Genius: The Inner World of Marie Curie* Highly entertaining . . . and holds the most agreeable surprises. . . . A story well worth the retelling, and Bodanis tells it vividly.Sunday Times (London)Riveting, moving, often hilarious, *Passionate Minds* is gritty social history and hard science and romance all rolled into one. Both fast-paced and profound, *Passionate Minds* is an intellectual roller-coaster ride that puts the excitement back into the Enlightenment. Emma Donoghue, author of *Slammerkin* This is an absorbing tale based on extensive research, and it takes full advantage of both heroes propensity for coining quotable witticisms. Bodanis eloquently evokes womens restricted lives during the eighteenth century.The Guardian Bodanis is good at explaining complex science and skillful in weaving together two unconventional, complex, and intellectually reforming lives. . . . David Bodanis has taken up one of the great stories of the period, a potent mix of romance, science, and history. . . . There is never a dull moment.Sunday TelegraphFrom the Hardcover edition.About the AuthorDAVID BODANIS taught a survey of intellectual history at the University of Oxford for many years and is the author of several books, including *Electric Universe*, *The Secret House*, and the bestselling *E=mc2*. Originally from Chicago, Bodanis lived in France for a decade and currently lives in London, England.From the Hardcover edition.Excerpt. Reprinted by permission. All rights reserved.1Emilie Paris and

Versailles, 17061725 Gabrielle Emilie Le Tonnelier de Breteuil, just ten years old, sitting at the grown-ups dinner table, her wavy hair pinned tight in yet another eVort to keep it in place, was straining to follow the words of the visitor her father had brought to their Paris mansion this Thursday night. His name was Bernard le Bovier de Fontenelle, and she heard he was a famous scientist. He was talking about the distant stars. He was explaining that they are huge suns like our own, with inhabited planets around them. That shouldn't terrify her, he went on, for it means we no longer have to feel oppressed, pinned down on our one small planet. Instead, we should gaze outward and breathe freely. Nothing is so beautiful to visualize as this prodigious number of [solar systems], each with a sun at its center making planets rotate around it. Emilie listened, rapt. It was dark outside, and the light from more than a dozen candles filled the room; the servants worked quietly amidst the glasses and plates and silver serving trays. This was one of the worst times she had been allowed to stay up so late. Even better, Fontenelle was scarcely paying attention to anyone else. Emilie's elderly father, Louis-Nicolas, looked on thoughtfully. He had arranged this evening, for he recognized that his daughter was different from other children, badgering him with constant questions about history and the court and the stars and religion. But he also knew that Emilie's excitement at learning didn't win favor with everyone. Her mother, Gabrielle-Anne, was also at the table and she was distinctly not amused. Gabrielle-Anne was one of those once-beautiful women who forever remain unhappy in life, however wealthy they are. I don't think that anyone ever saw her smile, a regular visitor remarked, except in a weary, condescending way. She had been brought up in a convent, where the most important knowledge was how to maintain your social position, and the most intellectually complex instruction had been needlepoint. For years she had tried to instill in Emilie the only kind of advice she felt a girl needed. The rules were legion: Don't ever blow your nose on your napkin; you might think I don't have to tell you, but the Montesquieu brothers blow theirs on the tablecloths, and it's disgusting. Break your bread rather than cut it (and break the bottom of your soft-boiled eggs when you're done so that the servants won't send them rolling off the plate onto you). . . . Never, ever comb your hair in church. You must be careful with the word monseigneur, it is pronounced differently for a prince of the Church and for a prince of the blood. And when a priest is in the room, always give him the chair nearest the fire and serve him worst at meals, even if he's at the bottom of the table. The mother had even tried sending Emilie to formal infant balls, where children arrived in miniature carriages and were supposed to remain for hours, showing off their bouquets, remarking on the goblets and furnishings and each other's clothes. But Emilie had been bored and showed it. Making it even worse at the Breteuil table this Thursday night was Emilie's fourteen-year-old cousin Rene-Caroline. She was cross, for she wasn't used to being ignored. In the past few months, since she had moved into the Breteuil home, she had been the favored girl. She was everything a mother could hope for: compliant, pretty, and always wearing the right clothes. For hours on end she would happily gossip with Gabrielle-Anne, talking about fashion and etiquette, and the quite embarrassing weakness of the father's family, which had been ennobled for scarcely two centuries—a sad contrast to Gabrielle-Anne and Rene-Caroline's notably more distinguished, if not quite so wealthy, family. (When we spoke about such nobles of the second rank, Rene-Caroline recounted, we were careful to look sideways to be sure our words didn't offend them as one would if speaking about hunchbacks or redheads.) The mother gave this newcomer all the approval she withheld from her daughter. Emilie had desperately wanted to join them, but she could never quite say or do the right thing. If she did try, she was more likely to blurt out some complex question in philosophy or theology. She would have been better off asking about fashion. She was so confused and pedantic, Rene-Caroline remembered. She wanted us to think she understood everything. Her mother and cousin just sighed. Rene-Caroline had even convinced Gabrielle-Anne to kick Emilie out of the attractive upstairs bedroom that overlooked the Tuileries, letting herself move there instead. Emilie was relegated to small ground-floor rooms, looking out on a wall. I don't believe there's anyone on earth who can feel despised without becoming despondent, Emilie wrote later. Public scorn is a worse torture than the law can inflict, because it doesn't go away. Now, though, at the dinner table, in her father's encouraging presence, and with the dinner guest focusing on her, she was able to escape into the wondrous world of science. Fontenelle told the ten-year-old Emilie about the thick band of white in the night sky called the Milky Way, and explained that this too was but a seeding of worlds, in far greater number than we could imagine. Experienced visitors from those distant stars might call out to new passengers as they entered our solar system, You will soon discover a planet which has a great ring around it and so Saturn would be a floating navigation beacon for them to use. Emilie was entranced with what might lie out there in space. According to Fontenelle, it seemed impossible that anyone on Earth could possibly weigh distant Saturn, or determine the temperature there. But what might be discovered in the future if you really used your mind? Her father was unusual. Most European thinkers of the time were convinced that human adults were actually two different species, with males having been created with superior intellects to match their superior strength. But Louis-Nicolas knew how bright his daughter was, so quick in her thoughts, and he didn't see why he shouldn't help her. Even when Emilie had been younger, and often clumsy as a little girl, he had encouraged her in physical activities such as supervised horse riding and fencing. Now he began to bring tutors to the house for her. As the years went on, she translated Virgil and learned to read Tasso in the original Italian; she had the pleasure of memorizing long stretches of Lucretius and Horace as well. Men can choose lots of ways to achieve glory, Emilie wrote, looking back, . . . but women can not. Yet when someone is born with a soul that wants more, at least solitary study is there to console them. Gabrielle-Anne

was horrified at her daughters progress and fought her husband at every step, at one point even trying to get Emilie sent away to a locked convent. That would have been a catastrophe for Emilie. Even the most distinguished girls school, located outside Paris, had no significant studies, and allowed only a single thirty-minute visit with parents every three months. Punishment at elite convent schools included sending young girls, repeatedly and alone, to pray in stifling dark burial vaults. (One of Louis XV's daughters suffered such fits of terror from being forced to do this that she never recovered.) Fortunately for Emilie, her father managed to hold out against the convent. But even though she got to study, she was still lonely and could scarcely leave the house. If she went to the front of their mansion, when she went in and out on errands, at best she could see the open Paris streets beyond, and the king's private Louvre palace in the distance. It wasn't becoming for a female to explore on her own, and it was also too dangerous not just at night, when, as her two older brothers had taught her, knife-wielding killers and the ghosts of the dead and carriers of plague roamed, but even during the day, when mutilated beggars would defecate under the yew trees in the Tuileries beside the old clay quarries there, and huge wooden carriages would jounce past while groups of restless policemen with thick cudgels watched the crowds. She was constrained to stay in. As time passed, she realized that her protective father wouldn't be there forever. She had exactly two alternatives in life: either she could marry into a family that would keep her well or she really could be sent to a convent. Only this time it would be not just for a few years of education but to stay for the rest of her life, amid women who had been disfigured by smallpox, or who had been considering marrying beneath them, or perhaps the majority whose parents were simply unwilling to waste the funds to send a daughter out into any suitable family at all. It was not a biological clock but a financial one that now began to tick. To make it harder, her father's income had gone down. For many years he had been chief of etiquette at Versailles and had earned a great deal by negotiating with foreign dignitaries to give them access to the king. After Louis XIV died, however, in 1715, that had stopped. Emilie's dowry crucial to help pull in a spouse was only medium-sized. Luckily, though, when Emilie was fifteen in 1721 something began to happen that tormented Rene-Caroline, still a regular visitor, more than ever. Emilie had been lanky and awkward as a child (my cousin was three or four years younger than me, Rene-Caroline wrote, but she was at least five or six inches taller). Now, though, Emilie filled out. Her face took on an attractive oval shape, her hazel eyes widened, and she became, if not the perfect beauty that her mother had been, then a tall young woman who was very fit and very confident. This could be her escape route. At age sixteen she was sent to live at court, to see what man she could attract with her mix of beauty and money and with luck she wouldn't say too much to put him off. The purpose, as every woman understood, was to get a man who, in the later immortal words of Dorothy Parker, should be wealthy, loyal, and dumb. But although Emilie didn't want the convent, she still was choosy. She was realistic enough to know that she wasn't going to find a man who would stimulate her creativity. But she also didn't want the standard life of a wealthy married woman, and needed someone who would at least give her the space to keep on studying. It didn't help that since the recent death of Louis XIV the court had been run by a regent, who encouraged a sensual indulgence in his own life and among his courtiers that the old king hadn't allowed for decades. Since the most ridiculous of the fops, officers, and gamblers at Court wouldn't leave her alone, Emilie had to come up with a plan to show she was serious. As one account has it, she simply challenged the chief of the royal household guard, Jacques de Brun, to a sword fight. De Brun was an experienced soldier and might have thought this was madness, barely worth lifting a weapon, but Emilie knew what she was doing. They wouldn't use their swords to try to kill, but the spectacle of her having to take off her formal dress and squaring up against this professional soldier would bring as many of the nobles as could manage to circle around and watch. The years of fencing lessons Emilie's father had given her now paid off. One soldier who knew her well and had himself killed a man in a duel wrote, She . . . wields a sword like a hussar, and becomes so ferocious when [a man] vexes her that she would not hesitate to run him through. She didn't defeat de Brun, but he didn't defeat her either. They each put down their swords, panting. To her mother this was the worst possible thing she could have done. My youngest . . . frightens away the suitors. . . . We may be forced to send her to a convent [after all], but no abbess would accept her. There was still no sign of the ideal suitor at Versailles, but Emilie could now go back to her studies, at least for a while. It was harder than at home, because she'd gone beyond what her Paris tutors could teach her and there was no one at Versailles she could share her interests with, especially in philosophy and science. She began to study and read on her own. What she learned went roughly like this: In medieval times, several hundred years earlier, there had been virtually no science. The universe was felt to be very simple. There was God on high, and kings and the Pope and cardinals below Him, and the chain of authority continued on, down through bishops, and knights, and monks, all the way to the humblest peasant. Everyone was in his place. Nothing new was to be discovered. Even the heavens above were unchanging. Earth was at the center of a small universe, and the sun and planets orbited around us not very far away, possibly closer than the moon. At the outer extremity there were tiny specks of light the stars which were fixed to a crystalline shell that slowly rotated overhead through the seasons. No one could question this, for not only was it obvious to direct sight, but the king and the Church derived their authority from the very nature of this unchanging universe. God ruled from a celestial throne, just as our superiors ruled us from their earthly thrones. Questioning the truths of astronomy would be the same as questioning the authority of kings and religious leaders here on Earth. It was a strict theocracy in which Emilie's distant ancestors lived. For centuries on end that vision barely changed. But

then again, according to the standard texts she would have read a few astronomers such as Copernicus and Kepler began to question the science that underpinned those views. They found that the data that had been unquestioned since ancient times were not as true as believed. The sun did not orbit daily around the Earth. The heavens were not changeless after all. Most impressive of all, these new findings were not just guesses; vague notions that depended on intuition to prove true. There were ways to demonstrate that they were accurate, and to chart the new rules in detail. Emilie was desperate to learn more; this was what she yearned for but although she would no doubt drag Louis-Nicolas into nodding agreement when she shared some of these new ideas with him on visits, she couldn't get him to give her extra funds to buy more books. His lowered income didn't allow it. From the Hardcover edition.