French Women and the Age of Enlightenment

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Women in Science

The role of women in science in eighteenth-century France is an almost totally unexplored field. Indeed, the topic itself is hardly defined. What to include in addressing it, therefore, is initially unclear. Should one try to reconstruct the scientific training available to French women in the period? Should one look at the "fashions" in science that led some of them to take an interest in various branches of the subject at different times during the century? Should one study the biographies of some specific women who had a more than passing interest in the subject? Or should one actually read the writings of women scientists themselves in order to evaluate their contribution to the field?

All of these options present difficulties for two rather obvious reasons: the lack of much primary research on any of them and the undeniable fact that no matter which of these areas one chooses the number of women one could study is extremely small. It hardly needs to be emphasized that in spite of the relatively greater freedom accorded to women in this period they still encountered intellectual barriers both at the level of access to the normal institutions of learning (which entailed their exclusion from a tradition of problems and research techniques in all disciplines) and at the less formal but equally powerful level of cultural expectations and prohibitions. In the natural sciences, this exclusion had an especially pronounced effect. To be active in science, then as now, required two things in particular: direct access to the people and institutions engaged in significant research and the financial resources for the acquisition of books and laboratory equipment. In France, women were excluded from the schools that prepared for entrance to the universities and, of course, from studying at the universities themselves. This meant that they could not use the normal channels to acquire the essential mathematical knowledge needed to keep up with advances in physics, the major science of the early and mid-century. And even though the schools and universities themselves devoted little time to physics and what they taught was for much of the century the outdated theories of the Cartesians, they still provided a basic training, especially in mathematics, that could easily be supplemented later by a scientifically inclined student. Furthermore, the personal contacts gained in that institutional
structure could be continued subsequently by classmates who found that they shared common scientific interests or careers. None of this was available to women.

Even those women who, by the accidents of their upbringing or by force of personality, acquired a measure of scientific knowledge and wished to improve it by becoming part of the scientific community found further obstacles in their way. In an age when scientific advance was in the hands of a very few, those few inevitably tended to band together and to take over, where possible, the prestigious and publicly recognized scientific institutions. In France, this meant primarily the Académie des Sciences, which, through its directly elected members and its network of corresponding and adjunct members from all over Europe, gathered together many of the foremost scientists of the age, especially in the middle part of the century. But women were never admitted to the prestigious Académie (nor, indeed, to the majority of the provincial academies). Their scientific contacts, then, had to be purely on the personal level, dependent on their noninstitutional relationships with practicing male scientists whom they met—again, largely accidentally—and whom they could persuade of their serious interest in the subject. They could not participate in major collaborative research enterprises (such as the French expeditions of the 1730s to Peru and the Arctic Circle, whose purpose was the taking of observations needed to establish the exact shape of the earth). Since laboratory research was still in its infancy and less confined than now to public- or industry-funded institutions, it was possible in principle for a scientifically minded woman to take up smaller-scale research on her own, always assuming that her husband or father was willing to spend money on such eccentric fancies; but the fact remained that only elementary or sporadic projects could be carried out by private individuals. And in any case, then as now, the value of any project required that the researcher be up-to-date with current knowledge and have some idea of what would be worth investigating in the first place. Given these restrictions, women’s access to the education and contacts needed for significant research was virtually nonexistent.

These latter points do not bear simply on the role (or absence of role) of women in science; they characterize a more general distinction that gradually came into being during the eighteenth century—that between professionals and amateurs. Although the distinction had not yet become an absolute one, the gap between amateur and professional was widening; it was already extremely difficult to be a practicing amateur, as distinct from those, like many of the philosophes, who kept up with the latest information but contributed nothing to it themselves. Women had no choice but to approach science as amateurs; and although many did so, especially in the 1730s and 1740s, those who
managed to rise above amateur status to become serious contributors to the field to any degree at all can almost be counted on the fingers of one hand.

Even for this extraordinary handful, we have far less information than we would like, and, in some cases, we know hardly more than their names and a few bare details. Mme du Pierry, Mme Lefrançais de Lalande, Mme Lavoisier, Hortense Lepaute, Sophie Germain, Emilie du Châtelet, all figure in contemporary memoirs or letters and reappear briefly in later histories of mathematics and physics; but beyond the few details of dates and writings (or collaborations), no historian has yet tried to give a more adequate biographical account of these women’s careers, let alone tried to evaluate seriously the contributions made by any of them to the advancement of the sciences.²

In the light of this massive neglect of the (understandably sparse) contribution of French women to eighteenth-century science, it would seem pointlessly ambitious to attempt within the scope of this brief essay to redress a two hundred-year-old imbalance by means of a hasty biographical or critical analysis of the group of women just listed. It seems equally unhelpful to attempt a generalizing account of “the role of women in science,” precisely because the numbers in question are so small. Instead of any of these treatments, I would like to use this essay to focus primarily on a single one of the atypical products, one of the few who transcended mere amateur status to become a “woman in science” rather than an interested onlooker.

The very difficulty of gaining access to the world of science meant that only a tiny sample of women, and a totally abnormal sample at that, is at all relevant. Consequently, rather than seeking the features shared by the few would-be women scientists, I want to argue that we can learn more from a study of any one of them, in all her particularity and atypicality. Even a brief study of the career of such a figure can demonstrate both the potentialities and limitations experienced by women scientists in eighteenth-century France; by seeing just how far one woman could go within the scientific community, we get a vivid sense of the unstable mixture of freedoms and frustrations that fell to the lot of aspiring women scientists in this period.

Of the women mentioned, the only one about whom much contemporary information, as well as a substantial body of original writings (both in and outside science), has survived, is Emilie, the marquise du Châtelet. This fortunate accident makes it possible to use her career as an illustration of the extent to which a sufficiently determined (and privileged) woman could go in gaining acceptance and respect in the scientific community.
Born in 1706 into the Breteuil family, one of the prominent dynasties of the French court, Emilie du Châtelet is all but invisible (except for her marriage in 1726 to the marquis du Châtelet) until 1733. It was then that Emilie encountered Voltaire, already famous as a poet and notorious as the presumptuous critic of French intellectual, religious, and political institutions. At that time, he was one of an intellectually exciting group of playwrights, poets, scientists, and philosophers; and largely through her association with him (a liaison that lasted the rest of her life), Emilie du Châtelet, too, came into contact with what we might call the avant-garde of the French intelligentsia.

During the next fifteen years, living mostly either in Paris or at the du Châtelet estate at Cirey, she wrote and published one book on the metaphysics of natural science (the *Institutions de physique*), an essay on the nature of fire and heat (the *Dissertation sur la nature et propagation du feu*), and two short pieces on the problem of measuring physical force. She also wrote, but did not publish, an essay on optics, a translation of Mandeville’s *Fable of the Bees*, a treatise on language, an essay on happiness, and (apparently) a lengthy critical examination of the Bible. She co-authored, anonymously, Voltaire’s popularization of Newtonian physics, the *Eléments de la philosophie de Newton*, and she completed a translation of Newton’s *Principia mathematica* with a commentary, which was published posthumously and is still the standard French translation of that work. In 1748, while still revising the *Principia* translation, she began an affair with the marquis de Saint-Lambert, which led to an unexpected pregnancy and to her premature death, several days after giving birth, in September 1749. By the time of her death, she was well known not only in French intellectual circles. In Italy she was elected to the Bologna Academy of Sciences and the *Institutions de physique* was published in translation. In Germany, where the *Institutions* was also translated, she was included in a biographical anthology that provided a sort of *Who’s Who in Scholarship* of the day, and her work on the nature of force was commented on favorably by the young Kant.

Emilie du Châtelet’s childhood education combined typical and abnormal elements. Like the majority of aristocratic and wealthy bourgeois daughters of the time, Emilie attended a convent. In the standard convent education, the basics of literacy that could be expected from a girl of perhaps ten years old would be supplemented by further reading and writing, most often in religious or morally edifying subjects; but the chance of encountering instruction in languages, mathematics beyond basic arithmetic, history other than that to be read in the Bible, or, for that matter, any recent literary or philosophical writings was extremely small. However, at some time in
her childhood, she also studied mathematics and Latin—enough of the latter to enable her to translate the *Aeneid*. Her career would have been little different from that of many other intelligent, articulate women who dabbled in philosophy and the sciences during the eighteenth century, but who lacked the basic education in languages and mathematics to carry their interests further, if she had not, at her father's instigation, supplemented her convent education with private tutoring in those vital areas. Knowledge of Latin stood her in good stead in her later scientific and philosophical studies, most of all, of course, in her study and translation of the *Principia*; and although her early mathematical training was more elementary (probably going no further than the elements of Euclidean geometry, to judge by her later difficulties in returning to more serious study of the subject), it still gave her a basis on which to build up the competence necessary to enter the world of international scholarship.

Nevertheless, the form in which she acquired that education differed sharply from that offered to boys of the same class in the same period, and the implications of that fact have real bearing on her later career. The education of boys stressed systematic learning (tedious but still providing a solid foundation in Latin and mathematics especially), which girls had no experience of. Although the Sorbonne had long since ceased to represent the forefront of scholarly excellence, it still provided, for those students who wanted it, a training in traditional scholastic culture that was far more likely to inculcate habits of study, careful reading of tortuous texts, and thorough familiarity with technical, systematic theoretical writings than anything even the most highly educated woman of the same period would be exposed to.

Both the social and institutional character of Emilie du Châtelet's advanced education differed from that of her male peers. No such systematic training supplemented the individual tutoring of a girl living in her family hôtel, subject no doubt to a variety of household tasks as well as (from the mid-teens) the endless round of social obligations incurred in the all-important search for a suitable husband. The solitary relation of one pupil with her tutor could never substitute for the school or the university as an institution in which both intellectual and social relationships were formed and in which a variety of skills in social interaction was learned. The restricted model of intellectual behavior that Emilie du Châtelet encountered as an adolescent made it extremely difficult for her to form "normal" professional relationships with those philosophers and scientists she came to know later.

As an adult who had discovered that her true vocation lay in science and philosophy, Emilie du Châtelet had to rely on suitably qualified...
(and willing) male friends to instruct her so she could acquire the expertise necessary to be taken seriously as a scientist. She had no access in the years after her adolescence and marriage—years in which she came to reject the frivolous amusements of court life in favor of further study—either to privately paid tutors or public institutions, and her repeated attempts to teach herself from the poorly written textbooks of the time soon turned to frustration. She studied with two of the more prominent young Newtonians of the 1730s, Maupertuis and Clairaut; and she encountered on quasi-social occasions (such as the public lectures given by members of the Académie des Sciences) other well-known figures, such as Fontenelle, Réaumur, Buffon, and Diderot, with whom she could discuss topics of current scientific concern. But in the former case, tutoring was intermittent, inevitably interrupted by the primary research interests and frequent visits to other centers of learning of her two teachers. In the latter case, casual discussion and interchange of letters between her and her scientific acquaintances hardly substituted for the sustained, professional, full-time life of the working scientist that they could lead while she could not. It was not until 1738, at the age of thirty-two, that she was able to employ her own tutor, and by then, other family obligations and a variety of fortuitous occurrences (particularly the fact that the tutor, Koenig, supposedly hired to teach her mathematics, turned out to have no interest in so doing and persuaded her to study metaphysics with him instead) continued to hinder her further scientific education.

In short, no matter how determined Emilie du Châtelet was to become a serious scientist, her education both as child and adult could not match that of her male acquaintances for breadth, depth, continuity, or rigor. One obvious result of this, which emerges in her published writing, is that she compensated for these disadvantages by concentrating upon a few clearly delimited areas of scientific investigation; her research on the nature of fire and heat, her contribution to the topical debate over the nature of force vive (kinetic energy), and her translation of the Principia are all precisely defined projects. Moreover, sufficient expertise to carry them out could be acquired even by the amateur, provided she were determined enough. Indeed, in all three instances, the work she did was, in the estimation both of contemporaries and of subsequent historians, highly competent—not simply "very good for a woman" or "very good for an amateur." But what this sharply focused approach entailed was the impossibility of developing anything like a structured, long-term research program of the kind that more thoroughly trained (and less frequently distracted) scientists could pursue; and so the chances of hitting upon some really valuable new discovery, of becoming a major figure in the history of science, rather than a minor contributor, commentator, and translator, were virtually nonexistent from the start.
A second result of her reliance on occasional tutoring for her advanced scientific education concerns the qualities of intellectual independence and self-confidence that education could instill—qualities almost as crucial to the pursuit of serious research over a lengthy period as formal education itself. The fact that she was unable to travel freely to visit or study under the philosophers and scientists she most admired and was forced to work either with close personal friends like Voltaire or Maupertuis, or else with anyone she could persuade to join her household as an employee, meant that she was inevitably formed intellectually by a small and, in many respects, accidental set of figures, most of whom were already famous for their own work. Her awareness of their much more advanced and important status and her sense of personal indebtedness to them meant that the essential step from pupil to colleague, from tutelage to independence, was one she found very hard to take. The net result is a pattern of expressed self-doubt, self-deprecation, and, in terms of her actual research, tendency to choose safe, “dependent” projects like translation, criticism, and commentary rather than to strike out on her own. All of this was combined with a recurrent sense of frustration and fear that she was perceived as simply a hanger-on or dilettante, tolerated because of her social station or personal charm and not her intellectual abilities, rather than as a real, even if minor, scientist in her own right.

The entire character of her training, from childhood onward, thus displays features of personalization and privatization that produced an unevenly (and fortuitously) educated scientist, unable to participate fully in the formal, public institutions of teaching and research, dependent on the goodwill of more fortunate professional scholars, and, hence, perennially unable to develop a sense of intellectual independence or even be certain that she was welcomed and esthetically, rather than merely tolerated, in the company of those whom she most admired and sought to emulate.

Over and above these constraints, a brief glance at the other activities that filled Emilie du Châtelet’s life and that, mostly against her will, took up time she would rather have devoted to science and philosophy provides a striking illustration of the way in which the social expectations of the period rendered sustained study and research virtually impossible for women, whatever their social class. As a member of the aristocracy, she was spared the unremitting daily drudgery that effectively barred most women and men from intellectual activity of any kind. But although she was privileged, she was not free. With her husband absent on military campaigns through most of their married life, she was obliged to run the various households she and her children lived in. Her responsibilities included, for example, juggling the family finances, planning the extensive renovation of their
château, overseeing the farmwork and smithy attached to the château, collecting rents on their properties in Paris, hiring servants, and, most frustratingly for her, managing an elaborate lawsuit over some estates in Belgium, contested by two branches of the family, which could not be entrusted to the efforts of her typically incompetent lawyers. Indeed, this lawsuit occupied the greater part of her time between mid-1739 and 1745, just the years in which, having finally reached a reasonable level of expertise in physics, mathematics, and philosophy, she wanted to make her mark on the world.

Moreover, although she had considerable freedom of action in dealing with these obligations and had the usual degree of social freedom of women in her position under the Old Regime, many decisions still required the consent of her husband. Two in particular made an impact on her own life. First, she was unable to travel either for pleasure or for the sake of meeting fellow scientists unless she had been formally invited to visit some suitable household. The problem was that such invitations, in accordance with the rules of etiquette, had to include her husband; and if he was unwilling or unable to go, she could not accept merely for herself. A lifelong ambition to visit England and make the personal acquaintance of the disciples of Newton never came to anything. Similar plans to visit Italy, Germany, and Switzerland, where the more eclectic forms of Newtonianism that she approved had developed, likewise never materialized; and extensive correspondence with such luminaries as Euler, the Bernouilli family, and Christian Wolff was a poor substitute for direct personal contact.

Another difficulty concerned the hiring of domestic employees, particularly the more expensive ones. Recurrent complications mentioned in her correspondence in connection with the hiring of a tutor for her son were caused chiefly by the fact that M. du Châtelet's consent to all aspects of the arrangement (salary, pension, living expenses, meals, and a host of other details) had to be given before the post was offered. When the question of hiring a tutor for herself arose, the practical objections can readily be imagined. Tutors were not cheap, and the du Châtelets were not wealthy; in the early 1730s at least, M. du Châtelet was apparently not very sympathetic to his wife's eccentric way of life. Only when, by her own admission, she felt too old to learn with great facility was she finally able to hire her own tutor; and when he left her employment after six months or so, she was unable to replace him.

Reconstructing the day-to-day activities of Emilie du Châtelet over any period of time (apart from one four-year period of relatively tranquil and intensive study at Cirey, from 1735 to 1739) from the surviving correspondence makes it abundantly clear why, regardless of the other constraints already described, she could never have led the
life of a full-time scientist. Indeed, that she could achieve even as much as she did was due largely to her extraordinary energy and stamina. She could function with four or five hours' sleep a night; and if necessary—for example, when she was racing against time to complete the Dissertation in time to submit it to the biennial competition organized by the Académie des Sciences—she could survive on even less, forcing herself to stay awake by dipping her arms in ice water.

Moreover, the continuous round of social obligations, house guests, travel back and forth from Paris and Versailles to Cirey, Belgium, or Lorraine, and an assortment of domestic crises was complicated by Voltaire's demands on her. She acted as his nurse, secretary, advocate at court, and research assistant for most of her adult life, with increasing reluctance but without sufficient strength of will to break off a relationship that, however emotionally rewarding it may have been, was certainly detrimental to her own career.

To take one year, 1734, and trace Emilie du Châtelet's peregrinations through it gives a more concrete idea of the existence she led and of the kind and frequency of interruptions that her then newly-chosen program of scientific study suffered. Between January and early April, she was constantly on the move between her house in Paris, the court at Versailles, her widowed mother's house in the country at Créteil, and the châteaux of her society friends around Paris. In April, she went to Autun to celebrate the wedding of her friend Richelieu, staying there almost until the end of June; from then until September, the same social round as before recommenced. During this period, her third child fell ill and died; to a close friend, she wrote complaining of the time his illness had taken up. In October, she went to Cirey, returning to Paris for Christmas, when the same peripatetic existence resumed. Her mathematics lessons with Maupertuis began during the hectic period of January to April but were inevitably interrupted by the trip to Autun. They resumed again on her return to Paris, but at the beginning of September, Maupertuis went with her other mathematician friend, Clairaut, to Basel to visit Jean Bernouilli the elder, patriarch of the famous mathematical dynasty. On returning to France at the end of the year, he went straightaway to the house outside of Paris where he normally took refuge from social distractions to work on his own research, and she saw nothing of him for some time after.

All through that year, Voltaire's welfare occupied Emilie du Châtelet's time and energies more than anything else. Early in the year, he was sick, and she spent much of her time looking after him; then the beginning of May saw the eruption of one of the series of crises in his relations with the authorities. His Lettres philosophiques, which had been clandestinely published, were seized, condemned, and
publicly burned; and to avoid the danger of imprisonment, he went into hiding at Cirey. Not knowing how real the threat of punishment might be, Emilie du Châtelet was plunged into a state of anxiety that prevented her from pursuing her studies any further. Moreover, she was, for the first of many times, involved in covering Voltaire’s tracks, passing on messages to and from friends who could be trusted and asking influential contacts to work for his pardon in return for a promise of good behavior in the future. Throughout the summer of that year, the process of concealing (and reassuring) Voltaire while working for his exculpation was both time-consuming and nerve-racking. The relatively calm, though busy, period of four months or so during which she spent as much time as possible studying with Maupertuis in spite of both their other commitments thus gave way to a period disrupted completely by the Richelieu wedding and Voltaire’s flight. The next three months or so in Paris were mostly taken up with Voltaire’s case and her son’s illness and death. Finally, during three months at Cirey with Voltaire, her mathematical studies were temporarily broken off. They were replaced by the reading of Voltaire’s hero, Locke, helping Voltaire by reading and criticizing his current work, and renovating the house. Only at the end of the year, for a frustratingly brief period, could she be in direct contact with Maupertuis again and try to pick up her studies where she had left off several months before.

The process of piecing together the constant upheavals and distractions of such a mode of life makes one realize why Emilie du Châtelet made little attempt, then or subsequently, to carry out large-scale research projects. Her peripatetic existence meant that, purely as a practical matter, schemes requiring the minimum of materials—translations and commentaries that could be worked on with only a few books at a time, for example—were more feasible than long-term, large-scale laboratory research involving the amassing of equipment and a more settled way of life altogether. These considerations, taken together with the kind of psychological and social marginalization she encountered, go very far to explain the limitations of her career as a scientist. She was constantly subject to circumstances beyond her control; and, both in training and self-concept, the disparities between her and the men whose colleague she aspired to be were never more than partially overcome.

But were there any mitigating circumstances at all? Could Emilie du Châtelet derive any benefits from her marginal and precarious status in the scientific world of the mid-eighteenth century?

Although she was bound personally as well as intellectually to a particular group of mentors, she never seems to have felt that she “belonged” fully in the circle of French Newtonians with whom she
was chiefly associated. One effect of this was that the often uncritical enthusiasm for Newton’s work, which can be found especially in Voltaire but which was shared by the more serious converts to Newtonianism like Maupertuis, as well as by disciples of Newton in England, was not accepted by her. In her work on the nature of force, she early adopted the distinction between force vive and force morte (kinetic energy as distinct from force in the modern sense of those terms) that Newton had rejected but that Leibniz had insisted was necessary to account for the phenomena of physical impact and the conservation of energy in the universe as a whole. In her Institutions de physique and later, she argued that the simple Lockean empiricism of the Newtonians was inadequate as a metaphysical foundation for their physical science and proposed instead to amalgamate elements of the Newtonian system with a version of Leibnizian metaphysics derived from a reading of Leibniz himself and from the works of his successor, Wolff. In sharp contrast to the other French Newtonians, too, she refused to condemn Descartes out of hand, insisting (in the Dissertation on fire, for example) that, whatever his particular errors, he played an essential role in the development of modern physics and mathematics. It seems plausible to suggest that the pattern of critical, deliberately eclectic response to the science and metaphysics of the day, which contrasts with the more partisan, almost propagandistic style of the “in-groups” (whether Newtonian, Cartesian or Leibnizian), was available more freely to one who perceived herself as an outsider. Just as Kant, living on the geographical fringes of mainstream culture a generation later, could draw together elements from supposedly incompatible philosophical systems without feeling that he had betrayed allegiance to any one philosophical “party,” so Emilie du Châtelet, on the institutional fringe of the French scientific world, could adopt a consciously eclectic and individual position with respect to the competing claims of the three scientific traditions, French, English, and German. Although there is no space here to examine the advantages and defects of the conclusions she developed, her critical, nonpartisan attitude itself must be admitted to be preferable to the blind enthusiasm and often pointless polemic of many among her otherwise more advantaged male peers, in France and elsewhere.

Emilie du Châtelet’s career as a scientist, in short, was both constrained and furthered by some factors that were peculiar to her, but also by others that she would have shared with any woman of her class in her time. Before we can do much more than speculate, though, we need to know much more about other women who were, or tried to become, practicing scientists in France in the same period. We do have a few scraps of information; the single best source is Jérôme Lefrançais de Lalande, Director of the Paris Observatory in the mid-eighteenth
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century, who compiled a *Bibliographie astronomique*. He tells us that one Mme du Pierry was the first woman professor of astronomy in Paris and author of several papers he included in his own works and that Hortense Lepaute, wife of the royal clockmaker, did original work on the oscillations of pendulums of varying lengths that was included in her husband’s *Traité d’horlogerie* (1755). Hortense Lepaute was actually hired in 1759 by de Lalande, with Clairaut (the mathematician with whom Emilie du Châtelet had also worked extensively), to calculate the attraction of Jupiter and Saturn on Halley’s comet; between then and 1774 she was employed by him to do the computations for *Connaissance des temps*, a handbook of star and planetary locations and movements for the use of astronomers and navigators. Lalande also records that his own niece, Mme Lefrançais de Lalande, carried out a series of valuable astronomical calculations (which he also incorporated into his own works) and published a star catalogue and a set of navigational tables. Toward the end of the century, Mme Lavoisier, wife of the chemist, was studying languages, physics, and chemistry to assist her husband, with whom she collaborated extensively; she made the engravings for his *Traité de chimie* and completed the work he left unfinished at his death.

These bare details tell us nothing about the fabric of the lives led by these extraordinary women, but they do suggest further avenues of exploration. For example, it seems significant that so many of this tiny group were directly related to practicing male scientists. This aspect emphasizes how unavoidable for women scientists was the dependence on personal relationships, and especially on the permission and encouragement of male associates who were themselves in the field. It also implicitly shows how impossible was any sense of solidarity among women scientists themselves; able to pursue their work only through their association with men, they necessarily functioned as “honorary males” and, as such, were inevitably isolated and anomalous as women. The self-doubts expressed by Emilie du Châtelet, we may imagine, were equally felt by her less-documented women contemporaries. Moreover, in collaborating with Voltaire, with her teacher Koenig, and with Clairaut, she had to struggle constantly to gain recognition for what she contributed to the resulting publications—always in the face of the assumption that, as a woman and an amateur, her contribution was bound to be minimal. The recurrence of this “incorporation syndrome” in the cases of these other women is surely significant; their historical invisibility is in large part due simply to the fact that their own work was absorbed into that of their male colleagues.

The combination of practical constraints, lack of autonomy in their studies and research, and almost insuperable difficulty of transcending...
the personal so as to be recognized—both by their male peers and themselves—as scientists in their own right was an inescapable condition with which any woman scientist of the time had to contend. In that respect at least, we must conclude that for all her privileges, energy, determination, and pure good luck, Emilie du Châtelet’s achievement probably represents the maximum possible for French women in science—and not merely in the eighteenth century, but for long after as well.

NOTES


3. Voltaire’s Correspondence, letter D782, 6 September 1734, to Sade.

4. Voltaire’s Correspondence, letter D741, 12 May 1734, to Sade.

