

1 The Anatomy of Sex

At the turn of the century, in the midst of political turmoil and economic uncertainty, the Spanish scientific community was witnessing a period of optimism, even contained euphoria.¹ In their jubilation, scientists expressed what would be characteristic of the new science in the early 1700s: observation and experimentation had to tell the parts of the body and by extension allow them to understand the natural and social worlds.² In particular, anatomy, the light “and true north of the great pilots of medicine,” would alone allow physicians not to risk “their ships in the immense ocean” that the practice of medicine was.³ The truthful light of anatomy would let its watchful pilot replace a “feminine and litigious medicine,” taught at the universities, with a “useful, experimental and masculine medicine.”⁴ The new “masculine” view of the human body, mechanical, predictable and rational, was the only way to unveil the mysteries of its functioning.

The energy of this new group of scientists and learned scholars, who subscribed to the new medicine, burgeoned in informal gatherings and *tertulias* or literary gatherings rather than at universities.⁵ In these weekly meetings physicians and anatomists, as well as intellectuals and natural philosophers interested in promoting the new science, avidly read the new medical literature about the latest anatomical discoveries coming from Europe.⁶ Participants discussed the theories of René Descartes (1596–1650) and Emmanuel Maignan (1601–76), lectured on anatomy and ran experiments in physics, chemistry and botany.⁷ The new societies also lobbied to bring renowned European anatomists to Spain to preside over dissections and teach Spanish surgeons and anatomists the latest medical advances. At the turn of the century, Spaniards working under the protection of the monarchy were traveling to neighboring countries to learn of the latest developments in medicine and science.

The Spanish Crown sponsored many of the European journeys by anatomists, who immersed themselves in the new discoveries and medical advances. In 1680, the engraver and anatomist Crisóstomo Martínez

(1638–94) traveled from Valencia to Paris to work with some of the major authorities on anatomy in the French capital, where “the printing presses, the inks and water make prints shine with perfection.”⁸ His aim was to complete one of the first atlases of anatomy in Spain (Figure 1.1). In Paris, he worked with the French anatomist Guichard Joseph Duverney and the Danish-born artist professor of anatomy in Paris, Jacobe-Benigne Winslow. Nine years after his arrival, in May 1689, Martínez revealed to his mentor – the anatomy professor at the University of Valencia, Juan Bautista Gil de Castelladas – his excitement and anxiety at the constant novelty of publications in the French capital. He could not help it, but each time he saw a new edition of an anatomy book he felt “obligated in some ways to alter the economy of my drawings because its prints are so finely produced I have to do the same with mine, because my work does not deserve less than that.” This meant that the now fifty-one-year old had to “to study again and rethink all things, because lately all this material has tripled, not only in France and specially in Paris, but also in Sweden, Holland, England and other places.”⁹ A year later, the engraver-anatomist, initiator of microscopic research in Spain, had to abandon the French capital after accusations of spying for the Spanish monarchy. He died in Flanders in 1694, four years later, leaving his major work on anatomy unpublished.¹⁰

The exchange of anatomical knowledge that Crisóstomo Martínez fostered worked both ways: foreign experts also moved to Spain to practice their skills. Juan Bautista Juanini (1636–91), a physician-surgeon from Milan, settled in Madrid, becoming court physician to Charles II. In Spain, Juanini produced one of the first medical manuals that departed from traditional medicine. In his *Political and Physical Discourse* (1679), Juanini claimed his method was based on observation and “mechanical experiences, with which we can reduce any evidence no matter how difficult the matter is.”¹¹ More than two decades later, in 1701 the French anatomist Florencio Kelli, known for his emphasis on proving anatomical theories from the evidence of anatomical dissection, arrived at the court of the new Spanish monarch, Philip V of Spain. Kelli, teacher and mentor to some of the key figures of the new medical world, such as Manuel de Porras and Martín Martínez, gained his reputation in the “anatomical theater of the court” in Madrid, where he performed about twelve annual public dissections.¹²

By the early 1700s, all this scientific activity and exchange gave the new societies and their members international visibility. The *Journal de Trévoux*, the French Jesuit journal running articles on “Who is Who” in the European literary and scientific scene, listed the Royal Society of Medicine and Other Sciences of Seville in one of his monthly issues.¹³



Figure 1.1 Engraving “Skeletons and Bones” (ca. 1680–94) by Crisóstomo Martínez.

Biblioteca Nacional de España, Madrid

The appearance of the Seville Society in this widely read academic journal could only escalate the society’s visibility, as well as the exchange of ideas with other academies.¹⁴ In fact, Diego Mateo Zapata’s *The Medical Crisis about the Antimony and Response Letter to the Royal Society of Medicine of Seville*, a short pamphlet on the new medical ideas requested

by the Royal Society itself, appeared in the listed bibliographic index of the *Journal de Trévoux* in 1704, three years after Zapata's publication. It was translated into French shortly after.¹⁵ This exchange of information between the Spanish scientific scene and its French counterpart reflected a contagious excitement over what was new and a growing skepticism of what the old theories had to offer.

One of the first presidencies of Seville's newly established Royal Society of Medicine and Other Sciences fell on the person of Martín Martínez Pérez (1684–1734) – unrelated to the engraver-anatomist Crisóstomo Martínez.¹⁶ Martín Martínez was the main representative of this group of scientists and philosophers aware of Spain's need to connect with the scientific changes across the Pyrenees (Figure 1.2).¹⁷ Born in Madrid in 1684, in 1700 when the Royal Society of Medicine and Other Sciences of Seville was founded, Martínez was already a student of medicine at the University of Alcalá de Henares, north of Madrid. Six years later, in 1706, he gained a position as one of the main physicians in the general hospital of Madrid. In 1717 he became the president of the Seville society, and was physician to Philip V of Spain.¹⁸ With one major publication already under his belt in 1717, before his death Martínez published four other major works that made him one of the leading and more controversial anatomists in eighteenth-century Spain.¹⁹ The controversial aspect of this anatomist's work lay in his relentless attempts to discard old theories of the study of the human body, which were based on the traditional humoral model. Instead, modern physicians like Martínez wanted to replace humoral with anatomically based theories, which relied on observation and physical evidence as the only way to establish truth about the workings of the human body. While Martínez did not seem to have traveled to neighboring France or Italy, his work reflected a radical change in the theory and practice of medicine characteristic of the medical world in Europe: a distinctive view of the body that precluded a different understanding of the sexes.

For Martínez, observation had to be based on the experience of practising medicine and treating patients. What Martínez called *experiencia*, which can be translated in English into experience but also experiment or trial, was at the core of any of the anatomist's scientific bases. Experience had been a crucial component in natural philosophy for centuries but it was the central component of observation and experience in the new medical practice that became unprecedented. Any conclusion had to come out of the observation of the naked body and it was the experience and practice of Martínez that would allow him to reach to such conclusions. As the entry for *experiencia* in the Spanish Royal Dictionary (1732) reveals, experience referred to the “knowledge



Figure 1.2 Portrait of Martín Martínez; etching from a drawing by Valero Iriarte, engraved by Juan Bernabé Palomino.

Biblioteca Nacional de España, Madrid

of things, acquired by usage and practice.” To Martínez experience was at the core of any knowledge of the natural world, becoming his scientific method. Moreover, to the “usage and practice” Martínez would add “utility” or *uso*. One had to find out through experience the utility of things in the natural world.²⁰ Martínez was a true Baconian, and mentioned his admiration for Francis Bacon’s experimental method in some

of his most important work.²¹ The Spanish anatomist was attracted to Bacon's emphasis on individual experience and observation as key to grasp as much as human beings can perceive and understand of nature.²² Martínez's work, in fact, reveals knowledge of Bacon's main philosophies contrasting with those of Descartes, whom the Spanish physician was critical of, albeit acknowledging the usefulness of the doubts raised by Descartes' ideas. To Martínez, Descartes' "cogito ergo sum" could not be proven and tested by experience. Reasoning in itself could not identify the body and its parts; it was the experiment on the body that would tell the observer the name of the different body parts: "We believe we think and therefore we are, but we doubt about our thoughts and even about our own physical selves."²³ Martínez, as the heir of the new epistemological turn at the end of the seventeenth century, saw observation, experimentation and the use of the senses to be connected. Knowledge came through reason, but it all had to rely on experience.²⁴

Martín Martínez's production started with his first manual, *Anatomical Evenings or Compendium of Anatomy*, published in 1717.²⁵ Like other natural philosophers of his time, Martínez wrote the text as a dialog between a surgeon and an anatomist (a self-portrait of Martínez). Written early in his career, *Anatomical Evenings* already expressed the sense of novelty and "modernity" that would characterize Martínez's entire opus.²⁶ This manual contained Martínez's first statement about how anatomists like him preferred to call the female "testicles" ovaries, a "modern" view not only of the female body but of its nomenclature. Written in Spanish, rather than Latin, *Anatomical Evenings* was also Martínez's first effort to connect the new anatomical discoveries, in Spain and elsewhere in Europe, with the practice of medicine. It also reveals Martínez's long-standing aim to make the findings in his works available not only to Spanish-speaking surgeons, who perhaps would not know Latin, but also to a wider educated public across the Spanish empire, including the Spanish American colonies, where his works were particularly well received.²⁷

Martín Martínez's influential work reveals two important aspects of the Spanish medical world in the eighteenth century.²⁸ First, it confirms an interest, characteristic of the Enlightenment, to connect the natural and social worlds. Second, it also reveals the frustration of many physicians like him in understanding the workings of the human body without having to resort to what they labeled "superstitious" popular beliefs. Martínez himself, along with men like Benito Jerónimo Feijóo (1676–1764), tried to rid Spain of what they thought was the practice of superstitious medicine, influenced by popular tales rather than serious study of the human body.²⁹ Martínez criticized the popular interpretation of the Galenic system of humors that allowed for the explanation of

spontaneous sex change.³⁰ In particular, his work *Anatomical Evenings* reveals the physician's frustration that the scientific method of studying the human body was still unable to "find the name."³¹ He complained in his work about the lack of contact between the practice and theory of medicine, which would allow him to understand how the different parts of the body worked together. The practical application of Martínez's theory was part of the fame that the anatomist achieved. Anatomists in the Spanish empire, as elsewhere in Europe, did not work in a vacuum; their observations were only relevant because surgeons had to apply them when examining their patients. In the practice of medicine, and in their daily work with patients, surgeons' knowledge of anatomy was crucial to expelling old, superstitious beliefs in miraculous transformations of the body.

Although *Anatomical Evenings* represented novelty and modernity, Martínez expressed elsewhere his deep commitment to promoting the practice of anatomy in Spain. Martínez, student of two major anatomists, Florencio Kelli and José Cervi, soon gained his own place in the Spanish medical world and acquired fame throughout Madrid for his popular public dissections. In 1728, Martínez applied all this knowledge to his best-known work, *Complete Anatomy of Man*, a book that became an immediate success among medical professionals and intellectuals of the early part of the century. The eight subsequent editions over the next seventy years testified to this unprecedented success. Martínez dedicated this book to one his teachers, the Italian anatomist living in Spain José Cervi, who promoted teaching anatomy with the latest European methods of "observing nature in itself."³²

Complete Anatomy of Man is the work of a modern physician who wants to distance himself from those physicians and natural philosophers who formed their general theories without tangible physical evidence. In particular, Martín Martínez displayed his modernity in the study of the generation of beings and the formation of the sexes during gestation. To him, generation, or "the production of a living being from another living being," was one of the body's most important and obvious "mechanical needs."³³ It was implicit that this need required appropriate organs, rather than the other way around. This view established Martínez's attitude to the relationship between the natural and social orders. In his work, Martínez emphasized the importance of the physical, but it was all subordinated to the mechanical needs of the body; needs that fulfilled a social function. To establish the basis of such mechanical needs, Martínez pointed out the distinct differences between the features of the female and male organs: the female's clitoris, vulva, and uterus were clearly differentiated from the penis, testicles, and prostate glands

characteristic of male organs. The reproductive organs of each sex had different shapes and appearances since they had very different functions. Accordingly, sexual classification had to be based solely on the body's anatomical characteristics. Genital malformation aside, different organs made individuals male or female.

It is important to highlight the connection Martínez drew between the division of the sexes and the functional and mechanical component of difference. Without explicitly saying so, by establishing that the male and female organs, and their function in the reproductive system, are very different, anatomists like Martínez were rethinking very basic notions of the place of the individual in the relation between nature and society. Using physical and tangible evidence, these anatomists were recasting things that are in principle natural, such as sexual difference, and explaining them in terms of social utility. In other words, they tried to understand nature by observing its mechanisms, but these mechanisms had to obey society's notion of functionality. Thus, the anatomical differences between the sexes forced Martínez to determine how these differences allowed one sex to complement the other in reproduction.

Anatomists, not unlike other physicians of this time, prioritized reproduction in order to understand nature and the functioning of the body. Writing against Aristotelian thought, which argued that a new being was already contained in the "seed" of the male sperm, modern philosophers saw the complementarity of the two sexes as necessary for the formation of the embryo and the new person. In this mechanical process, the key was that the two separate organs of the male and female sexes performed different functions in facilitating conception and nourishing the new being. Martínez believed the function of generation determined the specific physical shape of the male and female sexual organs, so he de-emphasized any possible similarities between the two. The womb's particular shape was meant to help expel the fetus, and the muscles of the clitoris had the "function of closing the orifice of the vulva and of compressing the penis." This, Martínez stated, contradicted what "some argue," that the clitoris contracted in order to ejaculate sperm.

According to Martínez, sex difference in the forming fetus also followed a mechanical function. The entire process of generation depended on the proper nourishment of the embryo from the "nutritive juice" that the mother provided during gestation. The sperm would "communicate its character to the offspring," forming either a male or a female, but that process could be altered. The lack of proper nourishment was one explanation for the formation of individuals with ambiguous sex. These "monstrosities" were not "true hermaphrodites," but rather unfinished products of the natural course.³⁴ The clear separation of the male and

female sexes that the work of Martínez illustrated represented a construction; one could even say an invention. As the practice of medicine revealed, there were many individuals whose sexual ambiguity called this strict separation into question. Yet, delineating the exact difference between the sexes was entirely necessary, not only for the purpose of human reproduction, but also for the organization of society that sexual difference articulated. The imperative division of the sexes responded to principles of social organization, based on a division of work between men and women that paralleled their role in reproduction. Martínez devotes only two chapters of his *Complete Anatomy of Man* to sex and sexuality. Yet, the division of the sexes appears as a central theme in the anatomist's work, as it provides the parameters on how to see and name the body based on its social functions.

It is difficult to tell what came first, but I would like to argue that Martínez felt the need to "find" the sexual distinction based on anatomical observations because of a larger social impulse. The paradox was that this social division was immersed in larger notions of nature and society, and the relationship between the two that defied strict scientific definitions to accommodate moral rules. This represented a problem, since many eighteenth-century writers already displayed a "modern" view of sexuality in which moral truths had to be built upon scientific evidence, which provided a solid basis for all truths, perhaps exchanging one queen of the sciences for another.³⁵ The paradox results from the struggle to acknowledge the variability and the malleability of a body that constantly adapts to its social environment, while believing the physical body must be grounded in static, predictable and immobile "natural elements." This contradiction of medical ideas spilled into the major areas of society from law to philosophy. In each of these fields, debates arose over whether this division of the sexes was at all sustainable. There was also certain uneasiness before such natural determinism that questioned the role of free will even before the growing interest in education and the social environment in shaping natural tendencies. Ultimately, these were preoccupations that the Spanish world shared with its European counterparts. It was an eighteenth-century problem that, while unresolved, provided the fundamentals for modern definitions of sexual difference.

The Popular Fable of Sex Change

Aware of the stubborn persistence of humoral theory even among new anatomists, Martínez consistently worked towards dispelling all contradictions and nuances in his observation of the human body. Even the "rare cases" (*casos raros*) listed in his works – such as the boy born with

his testicles and scrotum on the back of the head (*occipucio*) – could only reaffirm for the anatomist that the testicles and scrotum did not belong there.³⁶ Identifying the exception confirmed that the rule was incomplete, but it also allowed anatomists like Martínez to see those rare cases as useful components of his broader knowledge of the workings of the human body.³⁷ In other words, although never expressed in such ways Martínez could regard anatomical exceptions from Aristotle's principle that nature aims at perfection but nature's imperfections, such as the production of females, are in fact necessary to maintain the harmonic functioning of the whole.³⁸

Dispelling the appeal of the humoral theory was key to reaffirming the authority of the new medicine. Martínez did it by constructing a clear before and after whereby the dividing line was the rational view of the world based on experimentation and observation. Previous explanations, not based on anatomical observation, were “fables” that only the populace, or those driven by the fantasy of fables, could believe. The traditional medicine was far from being a “fable.” Throughout the early modern period prestigious physicians, trained in universities across Europe, had subscribed to the humoral theory, having received support from Crown and Church. This established medicine was difficult to eradicate; Martínez knew that. His best bet was to rely on his readers' “rational” and “masculine” understanding of the human body and to construct the theory of the humors as irrational, effeminate, fantastic inventions of the untrained mind. What started as an anatomical project was in fact an epistemological revolution. It anticipated the modern way of thinking and its gendered component: a brave new world that was going to be masculine and rational, leaving behind the illusory world of tales and fables, the feminine realm, to explain the meaning of things. Humans' different genital mapping was proclaiming not only the division between the sexes but a view of society divided into opposite genders.

Martínez discredited the “feminine and litigious medicine” and saw it as the product of “popular fables,” the most important of them being the “fable of sex change,” which maintained that sexual characteristics were unstable; consequently, a sex change was possible in adulthood.³⁹ “The popular fable of sex change,” a term Martínez himself coined, derived from a humoral view of the body. A person's sex depended on a balance of bodily humors that, if upset, could produce a “mixture of sexes,” which under rare conditions might even provoke a spontaneous sex change. Following an Aristotelian view of the generation of humans, by which nature would always aim at producing males, women were thought to be more likely than men to experience a sex change.⁴⁰ When a woman

changed sex and became a man, she was confirming the natural order – always aiming at perfection – since males were, unlike females, complete and perfect beings. The transformation from female to male usually happened when the woman's hidden penis emerged. This was the case of thirty-four-year-old Magdalena Muñoz, a nun from Úbeda in southern Spain, who in 1617 experienced a sudden sex change. The transformation occurred after a strenuous effort heated up the nun's humors, thus changing from cold to hot, heat being a characteristic of men in contrast to women. In the case of Sister Magdalena, the appearance of the male genitals ended the nun's life as a secret hermaphrodite and turned her, physically and legally, into a man named Gaspar Muñoz.⁴¹ After the new sex revealed itself, Magdalena was allowed to leave the convent, to live as a man and inherit his father's estate. The sources for Muñoz's case are not of the same anatomical and experimental kind as Martínez's. They are descriptions of accounts of religious origin, yet they proliferated much more abundantly in the sixteenth and seventeenth centuries and reflect the fundamental medical practices and theories of humoral medicine.

In 1617 chroniclers of "rare cases" had considered the story of Magdalena Muñoz as one of "nature's miracles." This was also the term the Spanish painter settled in Italy, Jusepe de Ribera, or José de Ribera "Il Espagnoletto," chose in his 1631 painting of fifty-two-year-old Magdalena Ventura. Ribera depicts, "the bearded lady from Abruzzi [Italy]," along with her husband. The couple are staring at the viewer while the new mother is breastfeeding her infant child. Next to the couple is a table bearing a Latin inscription which points to this birth as, "a great miracle of nature." The symbols on the table, the spindle and the seashell, reveal the possible hermaphroditic nature of Ventura (Figure 1.3).⁴² The Spanish physician Juan Huarte de San Juan (1529–88) offered a physical explanation for the existence of women like Magdalena Ventura. According to this author, sex alterations in the process of gestation could lead to giving birth to girls who later in life could have manly manners and look, and boys that as men could have "womanly manners," "soft and luscious voice" and even an inclination for "women's jobs."⁴³ It was then plausible that, as in the case of Magdalena Muñoz, after a strenuous physical effort a woman could change her bodily humors from wet and cold to hot and dry, and with this provoke the appearance of hidden male genitals. These and similar stories were reprinted several times throughout the seventeenth century and they usually involved women whose physical efforts had heated up their humors, thus allowing their hidden penises to emerge. The way an individual behaved, whether too manly for a woman, or too feminine for a man, could reveal his or her

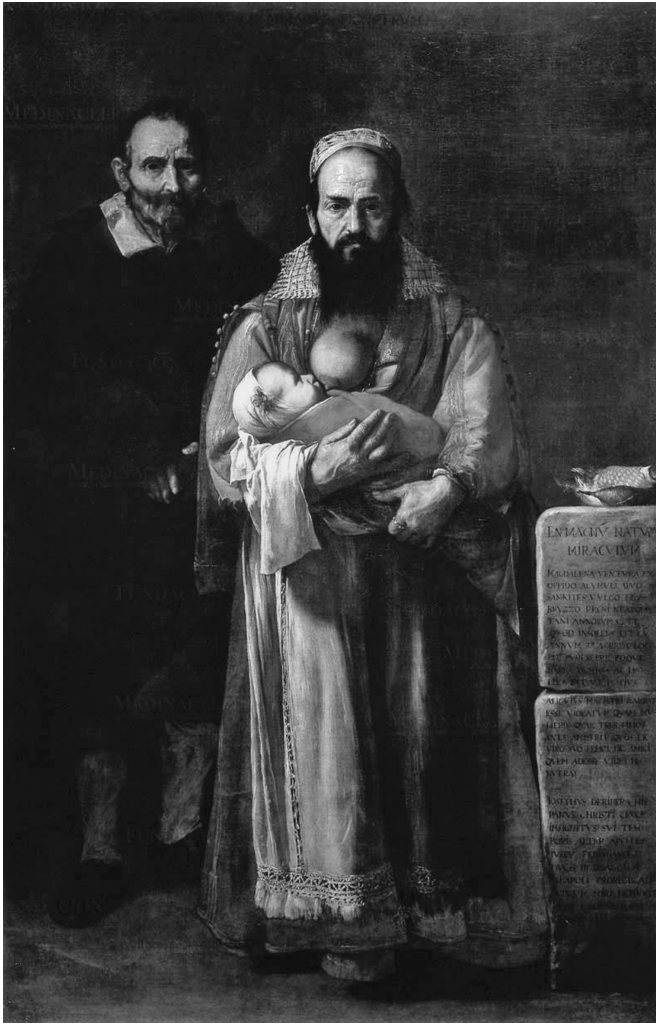


Figure 1.3 “Magdalena Ventura with her husband,” painted by José de Ribera (1631).

Fundación Casa Ducal de Medinaceli, Seville

internal sexual organs. For instance, Sister Magdalena’s fellow nuns described her as a “manly woman” having the strength, disposition and condition of a man, which led to doubts about Sister Magdalena’s true sex. Facial characteristics could also reveal the hidden sexual organs of an individual. In fact, one of the claims of the study of the face, known as

physiognomy, was that by recognizing some characteristic facial features one could find out about the internal aspects of the individual – whether psychological or physical.

Throughout the early modern period medicine and physiognomy had shared interests, since both fields aimed at determining how the external and the physical could afford the observer a glimpse of the internal and the intangible. In 1591 the physiognomist Luis Fernández followed Huarte de San Juan and Hippocrates when linking external physical characteristics, and in particular the face, to humoral imbalances.⁴⁴ According to Fernández, physiognomy allowed the viewer “to know the state of the body, the proportion of all its parts and the general and particular temperament.” Fernández probably found inspiration for his work in one of the most important treatises on physiognomy: Giambattista della Porta’s *On Human Physiognomy*, originally published in Latin in 1586; translated into Italian and published in 1598 as *Della fisionomia dell’ huomo*.⁴⁵ In the sections “Characteristics of the Effeminate” and “How the Effeminate becomes Hardened,” the author connected facial traits with improper sexual behavior. One could spot the effeminate man by his facial and physical characteristics, “beardless, wet eyes, small mouth and delicate eyelashes,” but one could also recognize the effeminate man in the way he moved his hands, the way he walked, his delicate voice and his skin, too white for a man. Moreover, the physical characteristics usually extended into womanly behavior as “he will want to stay home always wearing a skirt, [and] will tend the kitchen.”⁴⁶

Such ideas on the biological and social explanation for effeminacy inform the fascinating case of twenty-four-year-old Francisco Roca, or the “woman married as a man.”⁴⁷ Francisco Roca, “tall, beardless and with small eyes,” was born in 1624 in Perpignan, in Southern France, before the city formally became part of France. Around 1642, when Perpignan was besieged and taken by the army of Louis XIII of France, Roca had to flee the city. It was then that Roca entered the service of Philip IV of Spain “in secret affairs that concern that province coming and going from some parts to others.” Those trips took Roca to several parts of the empire, including Madrid and Naples. In 1646 he married his first cousin, María Fuster, in Valencia.⁴⁸ Three years later, in 1649, Roca’s wife and two other women, a slave in their household and Roca’s cousin, denounced him before the tribunal of the Inquisition in Valencia for his sexual encounters with men. The wife denounced her husband to the Inquisition after she had secretly seen him, on “fourteen or fifteen” occasions, sleep with other men. She testified that during the sexual act, Roca and his male lovers behaved “as if man and woman were together.” Her husband, she declared, was no hermaphrodite but “had no use as a

man” either. Moreover, during the sexual act, Roca played the part of the submissive female.⁴⁹

As the inquisitors gathered the testimony of several witnesses, they agreed that Francisco Roca had “feminine ways.” He also had beautiful blond hair. His skin was fair and hairless, and he had “small eyes.”⁵⁰ One of Roca’s household servants was even under the impression that his master was a woman dressed as a man. Another witness declared that he had seen Roca in Madrid and he “had it for certain [she] was a woman,” although she was “dressing as a man pretending to be a man.” Another testimony reaffirmed this and added that there were also rumors in the kingdom of Naples that Roca was a woman. The testimonies also pointed out that Roca dined and slept with several men, and some were convinced she had sexual relationships with them. One of Roca’s alleged lovers declared he also thought of Roca as a woman, since she seemed to have big breasts underneath her shirt. Others declared that they had heard rumors to the effect that Roca was a hermaphrodite who “used no other sex than that of a woman,” meaning that he did not use his penis for sexual intercourse, and some had heard “he had the same nature as a woman, and a very big one.” Roca’s servant was not surprised when he saw his master kissing and embracing other men. Moreover, Roca’s wife testified her husband had stopped sleeping with her.

The inquisitors ordered two examinations of Roca’s genitals, which dismissed such claims. However, the physicians who examined Roca acknowledged that he had unusual physical characteristics. His anus “was as wide as a finger and it was located further up [closer to the genitals] than was natural and normal” in a man. Roca and his lovers may have concluded that the unusually wide and oddly positioned anus was an underdeveloped vagina. Physicians in this case dismissed any claims of hermaphroditism and concluded that although Roca’s anus had an unusual position, nevertheless he was a male. Aristotle already pointed out in his *Generation of Animals* that the sexually ambiguous formation in children was not uncommon as some boys had the base of the penis united to the conduit from which urine is expelled. They had to squat like girls to urinate, and from afar they seemed to have both female and male sexual organs.⁵¹ But Aristotle did not attribute the category of hermaphrodite to these boys. Similarly, the particular shape and location of Roca’s anus confused physicians who examined him. However, this particular oddity did not make him a woman, or even a hermaphrodite. The case concluded in 1651 when the tribunal, based on the evidence provided by the physicians and the testimony regarding Roca’s relations with other men, condemned Francisco as a “passive sodomite.”

He was punished according to the “style and laws of the kingdom” and was incarcerated and his goods seized.

The case of Francisco Roca is an example of how already in the mid-seventeenth century physicians were reticent to acknowledge the possibility of sex change and instead grounded individuals’ sex on the physical evidence of their genitals. Medical perspectives on hermaphrodites throughout early modern Europe had already been interested in naming the distinctive genitalia of the hermaphrodite.⁵² There was then already a different sentiment in the medical community versus literary and popular accounts of the hermaphrodite. What eighteenth-century physicians aimed at was to keep the myth and the palpable reality of the medical observation of the human body separate.⁵³ Yet, popular perceptions of sex change were not based on the medical examination of individuals like Roca, but instead they were fed by extraordinary stories like that of Sister Magdalena. The story of this and other individuals were part of a more popular perception of sex change than real medical cases could in fact reveal. Physicians never examined Sister Magdalena; instead two priests saw and touched the male genitals to make sure they were not a fraud.

At the end of the seventeenth century, the popular belief of sex change, for which humoral ideas about the sexed body provided an educated basis, became progressively detached from the theory of medicine, represented by the world of surgeons and anatomists. The new view of the human body, as made up of a set of independent organs that acted together following mechanical laws (the field of iatromechanics), paralleled a similar understanding of how the “social body” of a nation worked. Distinctive institutions (from church to government) run nations, each having a specific role for the proper functioning of society. The jobs that men and women were expected to perform in society were a continuation of their expected roles in reproduction. In society, as well as in the physical human body, each organ had its specific place and function. Under this principle there was no room for a transition from one sex to the other in adulthood. This intimate connection between social and natural laws was the basis of most of the medical works in eighteenth-century Spain, as physicians tried to detach themselves from “the popular fable of sex change.”

By the early 1700s when Martín Martínez, the anatomist “worth of immortal praise,” published his works, the spectacle of “nature’s miracles” had progressively moved from discussing cases of hermaphrodites in medical literature, gazettes and chronicles to observing nature itself, as expressed in the human body, in anatomy theaters.⁵⁴ The removal of the hermaphrodite from the medical discourse did not mean its disappearance

from popular imagination. It was precisely this linkage between hermaphrodites and popular beliefs that further reinforced Martínez's project to discredit the traditional humoral medicine as unable to provide answers that the new rational medicine could instead deliver. In fact, the didactic interests of medical professionals contrast with the surprising fact that cases of hermaphrodites, such as Magdalena/Gaspar Muñoz, were almost always absent in the extensive number of proceedings of the royal colleges of surgeons, as well as in the practice of public dissections in the popular anatomy theaters.⁵⁵

The removal of the hermaphrodite from the practice of medicine and anatomy theaters was meant to guarantee the consolidation of a sexual difference that could only include men and women.⁵⁶ The hermaphrodite, also a central figure in the study of alchemy that was being discredited in the eighteenth century, became either a non-entity, as some physicians denied their existence, or a monstrous spectacle, like the "Famous African" hermaphrodite displayed in London in 1741.⁵⁷ Men and women bought their tickets for just two shillings and sixpence and gathered at the Golden Cross to see this "strange twist of nature."⁵⁸ The popularity of the twenty-five-year-old Angolan seemed to confirm Martín Martínez's statement that hermaphrodites appealed to the fantasies of the credulous populace, what the English labeled "the Crowd," or "the vulgar," *le peuple* in French, or *el vulgo* in Spanish.⁵⁹ No longer an object of wonder or ridicule, the existence of individuals who claimed to be hermaphrodites, or of those who in spite of their genital formation acted and looked like the opposite sex, became uneasy exceptions that compromised the perfect functioning of the machine-body and the perfection of nature itself. Ironically, it was the emphasis of the new medicine on experimentation and the day-to-day medical practice that put these very same theories into question.

The popular fascination with hermaphrodites like Sister Magdalena had a long tradition that went back to classical antiquity and Pliny the Elder's explanation of the formation of hermaphrodites in his *Natural History* (ca. 77 CE). Pliny's view of the hermaphrodite as an entertainment more than a "portent," well summarizes later medieval and early modern understandings of the hermaphrodite: from the Greek mythological account of Hermaphroditos as the offspring of Hermes and Aphrodite to the hermaphrodite as a mythical display of nature's uncanny potential.⁶⁰ The telling of the myth and its power for "entertainment" colored views of hermaphrodites and their medical and legal perspective throughout the early modern period.⁶¹ Yet, in spite of physicians' scientific approach to hermaphrodites and the possibility of sex change, it was precisely anatomists and surgeons' medical curiosity that remained at

the core of what historians have labeled “medical journalism.”⁶² A trend initiated in 1665 by the *Philosophical Transactions of the Royal Society of London* and the *Journal des Savants* of Denis de Sallo in France, medical journals were gazettes in the spirit of the later “Reader’s Digest;” highlights of recent medical discoveries that were meant to arouse the curiosity and amazement of the general public.⁶³ It is no surprise, then, that by the 1700s, and in spite of efforts by physicians to “debunk” the myth, the sometimes-distorted figure of the hermaphrodite reigned magnificently in the imagination of many during the age of the Enlightenment.⁶⁴

Towards a New Medicine

Martín Martínez presented his ideas on the human body as an unprecedented change in the medical world, a daring move to replace a “feminine and litigious medicine,” with a “useful, experimental and masculine” one. Others shared Martínez’s excitement, people with the authority of the Benedictine friar Benito Jerónimo Feijóo, or the reputable physician Juan de Cabriada (1665–1714). It was a revolution in knowledge and as in all revolutions it faced challenges from outside and within its ranks. The division of human sexuality into “perfect” men and women was bound to follow the fate of all universal precepts: it became “a site of contest, a theme and an object of democratic debate.”⁶⁵ Not everyone agreed with the clear-cut division of the sexes. There was disagreement among professionals themselves, as some surgeons and anatomists questioned the validity of an absolute and definite separation between the sexes. The challenges represented by this new medical approach derived, not only from the rejection by the feminine and litigious practitioners but also from hesitance regarding the new approach that some of the modern physicians displayed. Physicians like Diego Mateo Zapata were at first devoted supporters of the traditional medicine, then switched to the new medicine, and sometimes went back and forth between the two. Equally, Martín Martínez’s flirtation with the humoral theory in his works and some of the old medical explanations seemed to flare up in his sections on “rare cases.”⁶⁶ The anatomist placed in this category the examples of medical rarities that the new mechanical and anatomically-based medicine found difficult to explain.

The blend of the old and the new characterized the theory and practice of a group of anatomists at the turn of the century, who we could label transitional figures of the new science. They acknowledged their legacy and reliance on humoral medicine yet moved forward towards a more mechanical view of the body. These physicians prepared the ground for anatomists like Martín Martínez to flourish and revolutionize the

medical thought of the eighteenth century. Physicians such as Juan de Cabriada, Juan Muñoz y Peralta, Manuel de Porrás, and Diego Mateo Zapata, made up a fruitful group of young physicians ready to change the course of scientific thought in their native land. In particular, Juan de Cabriada, author at twenty-two of *Philosophical, Medical-Chemical Letter* (1687), a criticism of some of the practices of Galenic traditional medicine, revealed the dualist character of some of the new physicians at the end of the seventeenth century.⁶⁷ To Cabriada, modern physicians, among whom he counted himself, were like youngsters, “on the shoulders of a giant, although young, they can see all what the giant sees and further more.” Cabriada acknowledged the achievements of traditional medicine while criticizing the blind faith on the teaching of medical authorities of the past, to which some physicians had become “slaves.” An admirer of William Harvey (1578–1657) and his discovery on the circulation of blood, Cabriada also followed the work of Thomas Willis (1621–75) and his work on iatrochemical theories. Cabriada’s focus on experimentation and observation in medical theory and practice received the attack and criticism of those who consider traditional medicine as untouchable truths.⁶⁸ Cabriada’s focus on experimentation connects him with the new medicine and its faith on “the new anatomical inventions,” from the circulation of blood to the discovery of the human cell, which married with the increased interest and practice of dissections of the human body at the end of the seventeenth century.⁶⁹

The importance of the observation of the body was also fundamental in the theories of these transitional physicians, connecting their theories and practice with the new medicine. Dissections of bodies at different stages of the life cycle, from the incipient fetus to old age, were to aid the anatomist in the discovery of “a completely different human body” at the onset of the eighteenth century.⁷⁰ The study of human anatomy promised precise tools for observing and demonstrating the physical distinctions that determined sex, particularly during medical lectures in anatomy theaters.⁷¹ In these spaces, which interestingly were shaped like theaters, professors of the medical faculty performed public dissections and taught anatomy to a diverse audience that included medical students and professors as well as nobles, clerics, and even ordinary people. As the Catalan anatomist established in Madrid, Antoni de Gimbernat (1734–1816) advised, the ideal anatomic theater had to have

ample ventilation, with capacity for up to four hundred people, semicircular in lay out, interior gallery with three or four tiers for the comfort of professors and audience, and space at the ground level, just like any other anatomic theater as seen in Spain, France, England, Scotland and Holland. Close to the

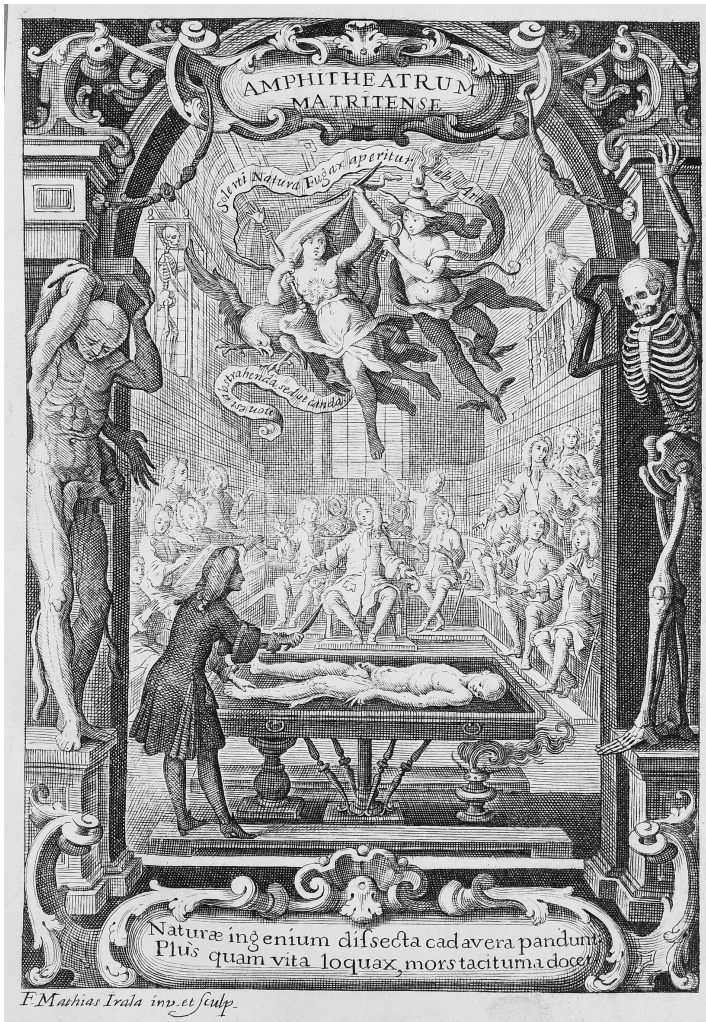


Figure 1.4 *Amphitheatrum matritense*, or anatomy lesson in the dissection room of the Hospital General of Madrid. Frontispiece of Martín Martínez's *Anatomía completa del hombre*; engraved by Matías de Irala. Biblioteca Nacional de España, Madrid

amphitheater needs to be the ward for anatomical dissections for the students of anatomy⁷² (Figure 1.4).

The quote points at Spain's place in the European anatomic theatre: Gimbernat comparing his teaching to that in neighboring France,

but also in England, Scotland and the Netherlands, where most of the anatomical discoveries were coming from. It also points at the importance of anatomical theaters as sites for the teaching of anatomy, where theory and practice correlated.

Public dissections had been part of medical practice since Galen, in the second century CE, and became popular in anatomy theaters all over Europe from the second half of the sixteenth century. But it was at the end of the early modern period that the nature of anatomy theaters as true public spectacle reached Spain. In the eighteenth century, the first of these anatomy theaters opened in Madrid in 1703, in Cádiz in 1748 and Barcelona in 1761.⁷³ The basis of anatomy was the observation of the human body, a process that required time and precision. Thus, the anatomy theaters became spaces of knowledge, offering anatomists and their students the opportunity to observe for hours at a time the motionless body, upon which one could “work without fear, examine with care and reflect on what was performed.”⁷⁴ To prove their expertise, anatomists applying for admission into the prestigious Royal College of Surgery in Madrid, Barcelona, and Seville used “rare cases” of sexual difference.

At the forefront of such dissection-based movement we find Manuel de Porras (fl. 1691–1716), student of Diego Mateo Zapata and Florencio Kelli. De Porras had summarized his emphasis on observation and the importance of dissection in his *Bone of Surgery and Exam of Surgeons* (1691), a manual meant to give physicians clues regarding how parts of the human bodies and organs were making individuals not only natural but social beings.⁷⁵ Author of the first anatomical treatise published in Spain, *Modern-Galenic Anatomy* (1716), to illustrate his treatise de Porras commissioned the well-known illustrator, artist, and Franciscan friar, Matías de Irala (1680–1753), who produced the engravings that accompanied de Porras’s work.⁷⁶ The nineteen images included in *Modern-Galenic Anatomy* are precursors to what we will see in the twenty engravings of Martín Martínez’s *Complete Anatomy of Man*, also Irala’s authorship.⁷⁷ Yet, the images of men and women – even the male and female skeletons – have a more anthropomorphic layout in de Porras’ work than what Irala would compose a decade later (Figure 1.5). They remind us, in fact, of the spectacular engravings the anatomist-engraver Crisóstomo Martínez produced a few decades earlier (see Figure 1.1). In de Porras’ text, the illustrations representing the female and male organs, albeit kept in separate pages and sections of the book, bear Galenic influences: the uterus is represented as an inversion of the male organs. In fact, Porras’ Galenic view of the human body was something Martín Martínez criticized in his *Anatomical Evenings*. Yet, and in

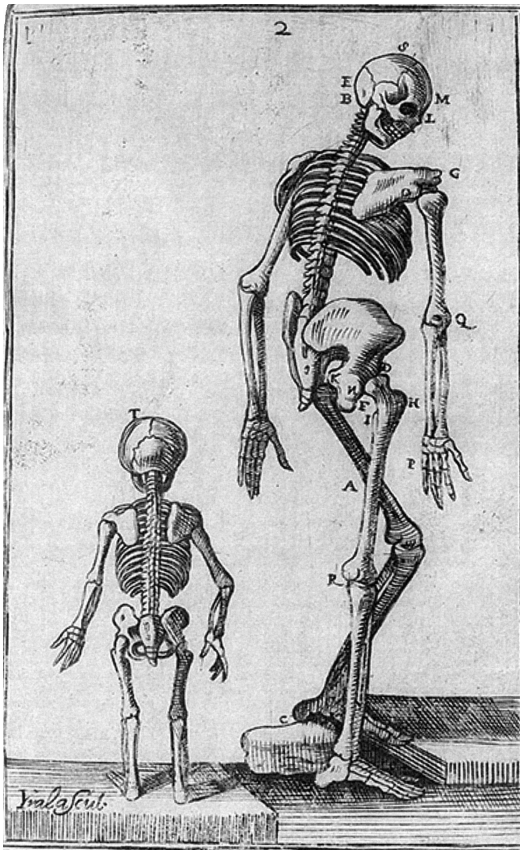


Figure 1.5 Engraving by Matías de Irala for Manuel de Porras' *Anatomía galénico-moderna*.
Biblioteca Nacional de España, Madrid

spite of its reliance on Galenic medicine, by giving a central emphasis to the observation of the body de Porras put “traditional medicine,” as he called it, in a secondary position before an emphasis on guiding oneself on the observation of the parts of the body to understand its functioning. Manuel de Porras’s emphasis on the importance of the observation of the human body in dissections, as well as day-to-day examination of patients, shaped the way other anatomists viewed the human body in the eighteenth century. It was the physical and tangible evidence of the human organs, arteries, and tissues, and the ability to give a specific name to each of them, that characterized their approach to health and illness.

The transition to a new model for understanding the human body was not complete until, in 1728, Martínez published his *Complete Anatomy of Man*. We can visually trace the change again with the work of Matías de Irala, the illustrator of both de Porras and Martínez's anatomical manuals. The change in the illustrations from one to the other work reveals the way anatomy evolved in the twelve years that separate Manuel de Porras' *Modern-Galenic Anatomy* and Martín Martínez's *Complete Anatomy of Man*. In Martínez's work de Irala's engravings, and their location in the text, speak of a radically new way of understanding the human body. In *Complete Anatomy of Man* de Irala, who probably copied the drawings from other anatomical European works, highlights the detail in each of the engravings, responding to Martínez's emphasis on "naming the parts." Moreover, each engraving is accompanied with a list of references for all the parts Martínez wants to highlight. The engravings, interestingly, come before the narrative, emphasizing the importance of the visual for the anatomist. Moreover, unlike most anatomical texts, which showed the illustrations of female and male genitalia side by side, *Complete Anatomy of Man* displayed them separately and with the form of each organ's differences shown. The vagina was no longer represented as a penis; the latter was shaped as cylindrical while the uterus had a tubular shape (see Figures 1.6 and 1.7).⁷⁸ Needless to say, the "lesson" on the male anatomical parts comes before the female's.

Ambiguity still remained even in Martínez's own vocabulary as he stated, "the clitoris [is] a sort of glandular body, round and large, very similar to the virile member." Martínez reaffirmation in his anatomical division of the sexes while showing here and there "slips of the tongue" is characteristic of the new anatomists of the early 1700s, still very much formed by Galenic traditional medicine. Still, Martínez departs from previous physicians by re-establishing whenever possible the anatomical divisions. Writing about the clitoris he observes, "it grows and becomes hard like the virile member; and sometimes it has grown to the point that [some women] have been able to abuse Venus with other women, and give occasion to the populace to believe fables of women turned into men."⁷⁹ Thus, to Martínez, the emerging penis of the nun Magdalena Muñoz discussed before may have been in fact an enlarged clitoris. Muñoz's enlarged clitoris does not contradict the separation of the sexes. A clitoris is still a clitoris, and although some women have used it "to abuse Venus with other women," it does not allow them to take the role of a man in reproduction. Still, Martínez may have wondered why nature allowed such an aberration. An aberration that to the enlightened anatomist did not really qualify as "nature's miracle." This leads us to the importance of Martínez including sections in his *Complete Anatomy of Man* for rare

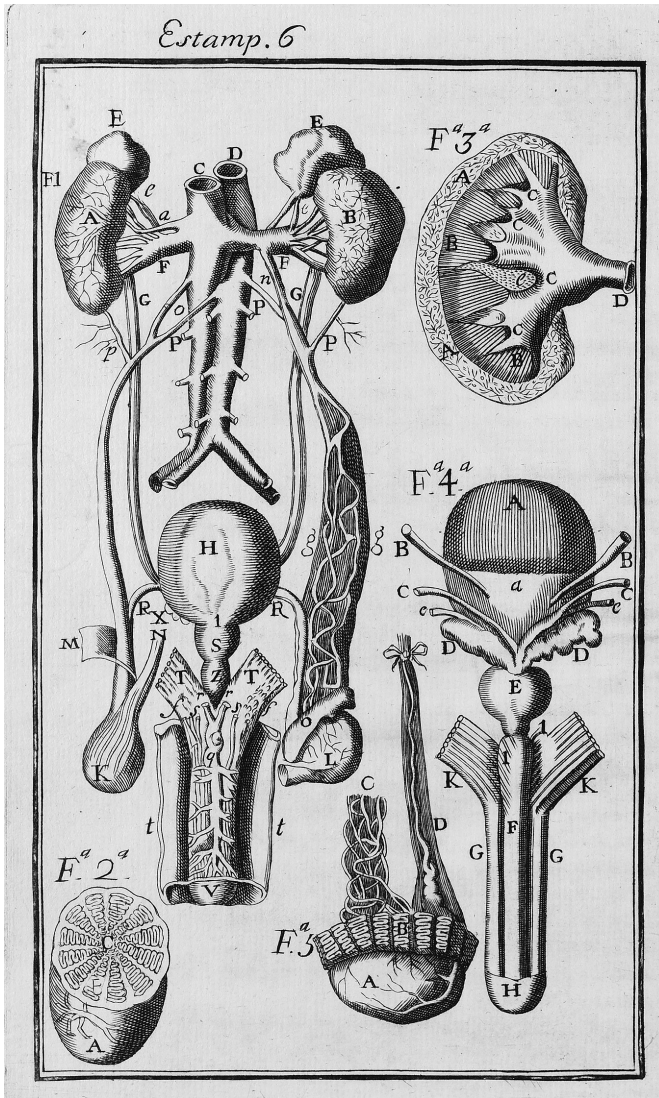


Figure 1.6 Engraving by Matías de Irala, “where the urinary tracks and parts of the generation of man are shown,” for Martín Martínez’s *Anatomía completa del hombre*.

Biblioteca Nacional de España, Madrid

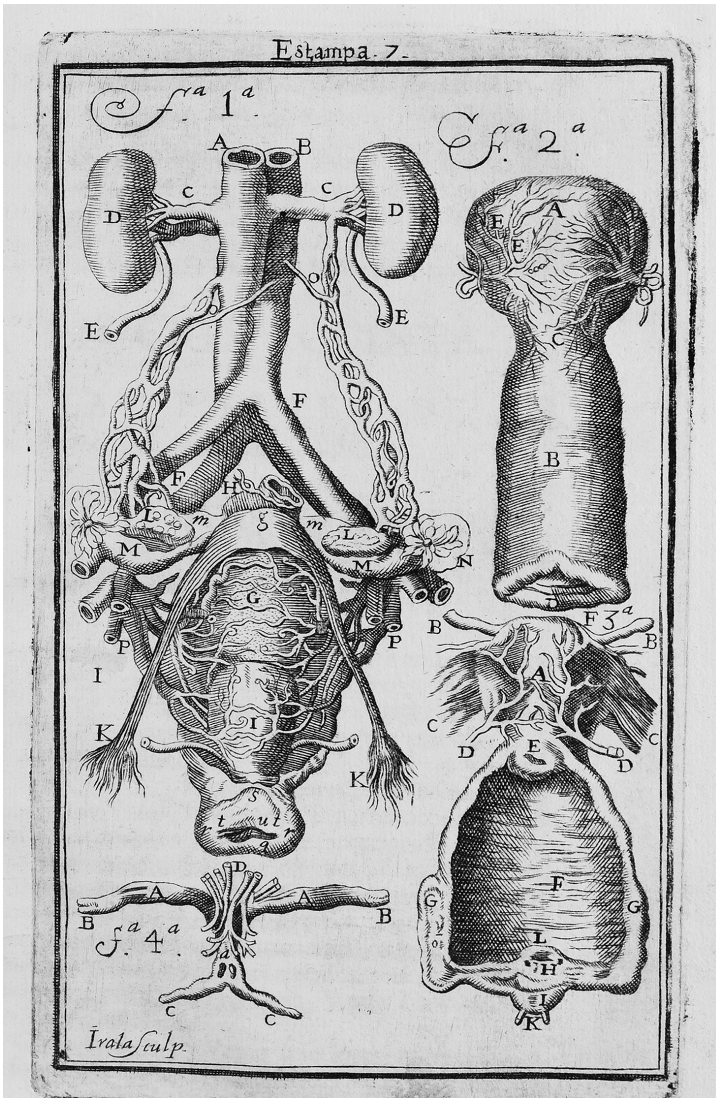


Figure 1.7 Engraving by Matías de Irala, “where the parts of the generation of woman are shown,” for Martín Martínez’s *Anatomía completa del hombre*.

Biblioteca Nacional de España, Madrid

and unusual cases, which he does on multiple occasions. It reinforces this sense of paradox, not having everything so neat-and-tidy, as he would like. It may seem that ultimately Martínez accepted that sometimes not all pieces of the puzzle were neatly fitting, or as suggested before, that the anatomists saw these rare cases as the exceptions that confirmed the rule.

The division of the sexes is also part of Martínez's effort in creating an order and classification and of his interest in understanding how to conquer the natural world, the "victory over nature" that the Enlightenment precluded. While acknowledging the importance of seventeenth-century natural philosophers and their emphasis on observation, nevertheless eighteenth-century anatomists like Martínez devoted a special emphasis to how nature could not only be understood through observation but also organized and classified. It was part of the emergence of a truly self-organizing mind in the eighteenth century that questioned how reliable information could be. A general anxiety about authenticity and its uncertainty permeated among medical professionals, philosophers, lawyers, and all the intellectuals, observers, and thinkers who shared similar goals we could call enlightened.⁸⁰ The "order and organization of life" gave meaning to life itself.

In the effort to organize, understanding nature and its changes was paramount. While there was hardly any attention devoted to the term nature in previous centuries the eighteenth century scrutinized the term itself as well as its expression. If Sebastián de Covarrubias Orozco briefly mentions "nature" (*natura, naturaleza*) in his *Dictionary Treasure of the Castilian or Spanish Language* (1611), defining it as simply "condition and being," the eighteenth century displays a renewed interest in defining, classifying, and grasping the sense of the word.⁸¹ In 1734, the Spanish Royal Dictionary elaborated its entry for *naturaleza* ("nature"), no longer the Latin term *natura* or "the essence and being of each thing." Twenty-six years later, in 1780, the same dictionary offered fourteen different definitions of "nature" adding to "the essence and being of each thing" there was a broad spectrum of interest, from "the compiled (*agregado*) order and disposition of all entities that made up the universe," that which is "independent from artifice," or "the virtue, quality or property of things." There was also in this end-of-the-century definition an effort to connect nature with its innate utility: nature was also "the instinct, tendency and inclination of things aiming at their conservation and increase (*conservación y aumento*)." Nature, which can also equal to sex "specially the female sex," is not only limited to the natural world, since "habit can also be another nature." As John Locke (1632–1704) had well established in his *An Essay Concerning Human Understanding* (1690) habit could in fact be "a second nature." The complexity of the term itself revealed the

changes that had been taking place in the eighteenth century. Nature had become part of the realm of “science,” progressively separated from natural philosophy. It was also part of a concept of science as something that provided an absolute truth. But it was still in the observation of the human body that nature would be found, dissected and understood.

New concepts of nature applied to the understanding of the body and the emphasis on body parts in determining human sexuality. This new emphasis, however, threatened to impose material determinism for human behavior. As Baruch Spinoza (1632–77) had pointed out, “the human mind is united to the body,” but the mind cannot be reduced to the body.⁸² In Catholic Spain, Spinoza appears to have had a more profound impact on the thought of some eighteenth-century Spanish thinkers, than other more famous rationalists, such as Descartes. Spinoza’s works were prohibited in Spain, yet the erudite Benedictine Fray Benito Jerónimo Feijóo agreed with this conclusion (Figure 1.8). Feijóo, who admired the anatomical findings of men like Martín Martínez, read the Dutch philosopher through Pierre Bayle’s interpretation in his *Historical and Critical Dictionary*.⁸³ Feijóo condemned Spinoza’s “atheism,” but he may have agreed with the Dutch philosopher that the body was much more than its distinctive anatomical parts.⁸⁴ Feijóo may not have had the malleability of genders in mind, but instead the idea of the soul/mind/will forming the body. Although Spinoza’s thought itself reveals Descartes’ influence, when it came to explaining the relation between body and mind and in particular among how emotions and the body interacted intellectuals like Feijóo may have found Spinoza’s acknowledgment of nature’s uncertainty more attractive.

Spinoza’s conception of matter allowed a more inclusive and all-embracing presence of God. To Descartes, God was the force that ultimately moved things, while for Spinoza God was both the force but also the essence of the body itself.⁸⁵ As stated in his *Ethics* I (proposition 25) Spinoza believed, “God is the efficient cause not only of the existence of things, but also of their essence.”⁸⁶ In the thought of the Dutch philosopher, divine force was able to permeate deep into a world that was becoming more and more rational. The essence of things can be explained rationally while still acknowledging the presence of God. This is key for understanding ideas regarding the body of the Spanish enlightenment that never saw a reductive atheism à la Voltaire or d’Holbach. The body had a mind and a soul, and Catholics believed they could influence the body and human behavior.

In particular, for Catholic Spaniards the concept of free will posed a challenge to the discoveries of the anatomists. Free will, *libre albedrío* in Spanish, meant that individuals had the ability to make choices

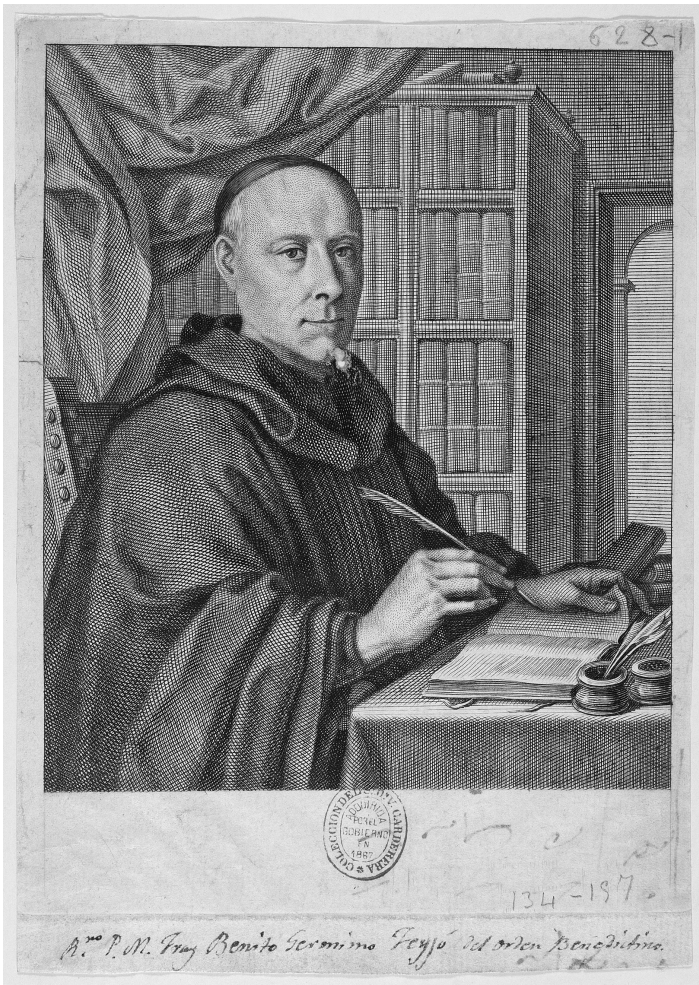


Figure 1.8 Portrait of Benito Jerónimo Feijóo (1781) by Juan Bernabé Palomino.
Biblioteca Nacional de España, Madrid

that were morally compatible with their religion.⁸⁷ It enabled individuals to overcome particular social influences, education and upbringing to act according to the dictates of the Catholic faith. Likewise, the notion of free will challenged natural determinism since it gave individuals agency to choose their actions regardless of natural inclinations. In this sense, where anatomists could not explain why physically perfect

men and women behaved in ways contrary to their nature, the concept of free will could offer an explanation: those individuals had chosen to act against nature out of vice or, on the contrary, they had fought their nature to remain virtuous. The latter was the case of the thirty-six-year-old capuchin Mother Fernanda Hernández, from Granada in southern Spain, who at twenty-seven began to recognize in herself the signs of the male sex. After Hernández left the convent and began living as a man, the archbishop of Granada asked him how it was possible that in his “convent garden, with so many flowers, none was wielded.” Hernández responded, “with grace and simplicity: ‘Your Grace must thank the modesty of the gardener’.”⁸⁸ Thus, despite a transformation from female to male, the capuchin used extraordinary will to respect the virtue of the nuns in the convent.

Although the concept of free will gave a plausible explanation to individuals who overcame their nature to lead a rightful and virtuous life, most medical professionals still believed religious explanations had to be separated from the practices of observation and experimentation characteristic of the scientific method. Yet, positions did not easily break down into a religious versus a scientific camp. This was particularly true for writers in the first half of the eighteenth century. For example, Fray Benito Jerónimo Feijóo was torn between his open and enthusiastic support for the new medical theories and his conviction that medical explanations could not provide the answers to all the mysteries of the human body. For Feijóo “all in medicine is disputed and therefore all is doubtful.”⁸⁹ Feijóo’s view was part of the movement of Spanish “skeptics” (*escépticos*), who dominated the medical and scientific scene during the first part of the eighteenth century.⁹⁰ These physicians and intellectuals, among whom we find Martín Martínez, battled the need to understand the object of their experiments, the human body, with the awareness that knowledge of the body was ultimately uncertain. Moreover, exactly how one could classify and organize the parts of the human body in order to understand its functioning remained a mystery. Feijóo concluded that it was futile to attempt to fully understand nature and thus the workings of the human body. To the Benedictine erudite, as well as other key figures of the early Enlightenment in Spain, it was God who remained a vital force for a full understanding of human beings.

The skeptics’ discussion of religion’s role in shaping scientific knowledge impacted the thought of professionals, intellectuals and erudite writers after them. Key issues such as free will, divine and natural design, and the possibility or not of studying the human body outside of Church dictates led some of the discussions regarding the division of the sexes at the end of the eighteenth century. Yet, although writers of the second half

of the eighteenth century in Spain and elsewhere in Europe were aware of the difficulties of reaching an agreement on exactly how the human body functioned, they were much less comfortable with uncertainty than Feijóo seemed to have been. In the second half of the century, writers and intellectuals who saw themselves as *ilustrados*, thinkers of the Spanish Enlightenment, were more eager than ever to pin down the exact knowledge of the human body and sexual differences. Still acknowledging the divine intervention in the creation of nature and its laws, these writers understood the knowledge of nature as a human problem, detached from the mysteries of God. Science would lead observers to a true comprehension of natural laws, which ultimately dictated the functioning of society and its institutions.

Despite physicians' and philosophers' efforts to detach science from religion, challenges still arose. Even if religion was set aside from the knowledge of the body, the understanding of the human body in relation to nature and society remained problematic. Was it the physical body that established individuals' behavior in society or did the needs of social organization also have a role in defining how the body adapted to its environment? Many eighteenth-century writers, from physicians to philosophers and educators, inherited this problem from the previous century's controversial contemplation of the influence that the mind had over matter.⁹¹ Could the physical body gain total independence from the social needs that individuals had created? Could the mind, which nonetheless was also part of the natural formation of the body, guide the needs of the human body? These questions ultimately reveal the concerns of a society in formation, which in the attempt to be "modern" found it difficult to live with natural precepts that were not clearly defined. Social divisions had to be clearly ordered, and for that purpose man had to have the tools to find this same and parallel order in nature. Ultimately, the emphasis on the relationship between nature, society and the body overshadowed debates over religion. Moreover, by trying to detach themselves from religious influence, writers gave overriding attention to the study of how the intervention of society shaped the human body. In an effort to "secularize" the body, writers – from physicians to philosophers and lawmakers – created yet another omnipotent force in the shaping of difference, sexual and otherwise: education, and its potential to not only mold but even alter nature. One could say that these writers ended up crafting their own fable.

It was in the practice of medicine that the new theories got proven and at the same time challenged. Those accused in criminal and inquisition trials for witchcraft, sodomy and other "excesses," which

included cross-dressing as a way to deceive others, brought dissent to the new medicine. Supposed hermaphrodites turned up in these trials when the accused protested they were not guilty of the crime of which they were accused, claiming that their “mixture of sexes” was the reason for living the life of the other sex. Appearing before the physicians who examined the accused and the lawyers who questioned them, these individuals created their own narrative of what they thought constituted a man or a woman. In fact, it is in the study of these narratives that the conflictive view of what defined sex and its social expression surfaces. Taken together, the stories of the accused, the questioning of the lawyers, the reports of the physicians and the testimony of witnesses reveal a complex picture of what it meant to be a man or a woman in the eighteenth century. As we will see, opinions often went back and forth in establishing whether or not sex was stable. They also raised the possibility that in spite of having male genitals, an individual who skillfully performed a woman’s job, had a high-pitched voice and soft skin could indeed be a woman. The social division of work and sex could in fact become so powerful as to threaten to overturn biological givens.