

# The Body of the Letter: Vital Force and the Practice of Spanish Medicine in Juan de Cabriada's *Carta Filosofica, Medico-Chymica* (1687)

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Yo considero à los Escritores Modernos como à vn Muchacho, puesto sobre los ombros de vn Gigante, que aunque de poca edad, veria todo lo que el Gigante, y algo mas.

—*Juan de Cabriada*, Carta

Juan de Cabriada (1665–1714) was a young physician of twenty-two when he published *Carta Filosofica, Medico-Chymica* in 1687. On the face of it, the *Carta* provides a case study on the proper course of treatment for tertian fever, a malarial malady that produces febrile paroxysms in roughly forty-eight-hour cycles and brings about debilitating symptoms of vomiting, headaches, exhaustion, chills, and anemia. What prompted the publication of the *Carta* was Cabriada's involvement in the treatment of the Duke of Osuna who had taken ill with the fever on May 23, 1686.<sup>1</sup> Throughout the ensuing sixteen days of the ordeal, Cabriada fell in with the *junta* of court physicians who convened daily to deliberate on the Duke's medical condition. Aside from Cabriada, the *junta* was composed of three physicians, all of whom were fervent Galenists. To Cabriada's dismay, throughout the Duke's illness the *junta* was not only dismissive of his medical theories on account of his age (on this point Cabriada remarks, “Ni con

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<sup>1</sup> There is some speculation concerning whom exactly Cabriada was treating for tertian fever. It has long been stated that Cabriada was tending to the Count of Monterrey (see López Piñero's “Juan de Cabriada y el movimiento *novator*” [29]). Yet, as it appears in the *protomedicato*'s report of the 1690s, included in the Expediente Personal del Doctor Cabriada (Caja 55, Expediente 17) in the Archivo General de Palacio in Madrid, it remains clear that Cabriada's *Carta* was inspired by his involvement in the treatment of the Duke of Osuna: “Y pareciendole [a Cabriada] el manifestarlo podia ceder en grande utilidad de la publica salud, tomo resolucion de hacerlo con la ocasion de ciertas controversias que se ofrecieron sobre la curacion de una terzianas que padecio el año ochenta y seis el Excmo. Sr. Duque de Ossuna, dando en dicho año y en el siguiente a la Estampa dos libros que an tenido buena fortuna de correr con el aplauso de los hombres Doctos de España y fuera de ella” (Muñoz Utrilla 30). Likewise, Martínez Vidal and Pardo Tomás reiterate: “En el caso de Cabriada, el motivo inmediato de la publicación de la *Carta* fue su participación en una junta de médicos convocados para tratar al duque de Osuna, según se puede leer en un escrito de su puño y letra” (114).

los Años solos, sino con el Ingenio, se alcanza”), but it refused to follow any course of primary treatment other than phlebotomy (*Carta* 4).

In the bewildering tangle of medical publications that polarized the intellectual atmosphere in Spain in the concluding decades of the seventeenth century, Cabriada’s “epoch-making” *Carta*, as Jonathan Israel has called it, provides one of the most illuminating texts on how the body’s vital force was beginning to be theorized through revised models of biochemical functioning (531). Indeed, Cabriada’s *Carta* was bold, derisive, and inspired, and it established a precedent—and a highly contested one at that—for a new understanding of modern medicine in Spain. One of the key aspects of Cabriada’s *Carta* that has never been addressed when it comes to its modernity is its underlying vitalist inspiration, especially as it concerns its polemical claims about the circulatory system and the chemical properties of blood. In the *Carta* and the polemics that ensued, we must, however, be cautious not to speak of a vitalist philosophy properly understood. With the term “vital force” I refer to the complexity of bodily life as it was understood through a close analysis of the body’s biochemical processes and concreteness. In insisting on the latest advancements in anatomy and iatrochemistry, Cabriada is able to avoid falling into the somatic hierarchies of Galenism, while at the same time challenging ancient systems of thought and traditional notions concerning the actions of the soul upon the body. This maneuvering, of course, does not imply that he challenged the validity of religion or neglected the tried-and-true wisdom of the ancients, but it does illustrate the manner in which his medical thinking was bound to the so-called empirical body first and foremost. For Cabriada, any consideration of disease had to go hand in hand with an appreciation of the body’s interiority and the particular environmental circumstances that acted upon it. The *Carta*, I argue, provides a type of heuristic for a reassessment of the body for the broader *novator* movement, one that could effectively guide Spanish medicine out from under the spell of Galen. This reassessment was doubtless rooted in the concepts of iatrochemistry and the mechanico-vitalist discoveries of William Harvey, Franciscus Sylvius, Thomas Willis, and Jan Baptist van Helmont, and its epistemological function was more subversive to established modes of therapeutic thinking than has previously been acknowledged.

It is par for the course for critics and historians to reference this seminal letter as a touchstone for the new spirit of medico-scientific inquiry that swept through Europe at the end of the seventeenth century. Rarely, however, is it analyzed in terms of its medical arguments, much less read in dialogue with other scientific texts of the period. In Jesús Pérez-Magallón’s view, what was innovative about Cabriada’s *Carta* was not its medical ideas per se, but rather its “frontal denuncia” of Spain’s scientific backwardness, its call for overhauling medical learning and practice, and its influence on the debates over scientific reform in the late seventeenth century (135). From this vantage point, as Pérez-Magallón explains, “de enorme valor simbólico resultan la visión crítica y las recomendaciones de Cabriada para profundizar en la modernización” (115). For her part, Adelina Sarrión Mora writes, “esta obra [de Cabriada] puede considerarse como la primera exposición completa de las doctrinas y propósitos de quienes se preocupaban por la renovación científica de España” (62). Other critics have echoed

this assessment, emphasizing Cabriada's call for modernization on several fronts (Debus 167–68; Gallego 61–62). Álgar Martínez Vidal and José Pardo Tomás have observed that while Cabriada's *Carta* is undeniably a singular text of scientific reform, it also reveals him to be “instalado en una línea de continuidad y progreso, en la que los ‘primeros inventores’ no eran negados, sino situados en su lugar” (116). For Martínez Vidal and Pardo Tomás, the *Carta*'s assessment of the circulatory system and its functions, particularly in relation to health and disease, was clearly innovative for the period. According to J. M. López Piñero, the critic who has attempted the most comprehensive appraisal of Cabriada's oeuvre, the *Carta* represents “el manifiesto de la renovación en España de la medicina y los saberes biológicos y químicos relacionados con ella” (“Juan de Cabriada y el movimiento *novator*” 4). While López Piñero has documented the historical reception of the text and the manner in which it conditioned the medical polemics at the turn of the eighteenth century (he advances the now well-established argument that the modernization of Spanish science in fact takes hold in the late seventeenth century through *novatores* like Cabriada),<sup>2</sup> his analysis of the *Carta* never quite manages to address the finer points of Cabriada's theoretical assimilation and expansion of anatomical and iatrochemical science. To maintain, as he does, that “[en] la obra de Juan de Cabriada . . . no se incluye aportación original de ninguna clase” is to overlook Cabriada's fundamental role as a *bricoleur* of sorts who assembled, integrated, articulated, and deployed a vast array of traditional and modern materials to offer a solution to Spain's outdated medical profession (“Juan de Cabriada y las primeras etapas” 129).

To properly assess the *Carta*'s engagement with vital force and the practice of medicine, it is best to begin by considering its epistolary character. In more recent criticism, John Slater has tackled the rhetorical dimension of the *Carta* remarking that while it was indeed an effective treatise of polemic, as a scientific text it was “more conventional than has been understood to this point. . . . [T]extually, its features are more familiar than revolutionary” (68). Undeniably, Cabriada's method of scientific exposition is permeated by the conventions of the period, but we must keep in mind that the scientific content of the *Carta* is indissolubly bound to its epistolary form: that is, we cannot overlook the possibility that scientific knowledge can be articulated through the performance of the physician as letter writer. What is most intriguing about the *Carta*'s epistolarity is how it prefigures the indeterminacy and resistance to closure that Elizabeth MacArthur identifies in those later eighteenth-century epistolary narratives preoccupied with “the actual process of creating meanings and a desire to put into question the moral and political status quo” (18). The epistolary form, determined as it is by a more fluid structure of inquiry and truth, becomes an integral part of the (scientific) message itself as it manipulates and defies the reader's expectations on various levels (Benito Feijóo y Montenegro's later *Cartas eruditas y curiosas* immediately spring to mind when considering the epistolary form in this light). In Spain, there were notable antecedents to Cabriada's *Carta* that experimented with this form, such as Francisco Cascales's *Cartas Philologicas* (1634). Abroad,

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<sup>2</sup> See López Piñero's foundational *Ciencia y técnica en la sociedad española de los siglos XVI y XVII*.

the hugely popular *Lettres Portugaises* (1669) attributed to Gabriel de Guilleagues had made waves in literary circles across Europe and established the stylistic prototype for later epistolary novels by Montesquieu and Jean-Jacques Rousseau.

Cabriada's *Carta* constitutes a response to Filiatro, an apocryphal court physician, confidant, and "maestro" who had inquired into the health of their common patron.<sup>3</sup> The image Cabriada crafts of himself in the *Carta's* opening pages as a lettered man of science hunched over at his desk with pen in hand (presumably from the auratic locus of the court in Madrid) hovers over the reader throughout the letter, and it announces the intimacy, authority, and rhetorical self-reflexivity of the medical insights that lay ahead. Cabriada, then, inscribes himself into the *Carta* not only as the physician-expert, which was the norm in texts of this nature, but also as the redactor of a medical case and, lastly, as the disciple of a great medical practitioner:

Es la *Memoria*, ô Filiatro, quiẽ atiende â lo passado: y la Pluma, como otro Sentido de los Ausentes. Con aquella miro mis obligaciones: y con esta las hablo. Gustas ponerme en empeño de responder â tu Carta, noticiandote de la enfermedad de nuestro Amo, y Dueño: (No especifico su Nombre, por las razones que tu sabes;) Te debo Obediencia, por mi Amigo: Atencion por Cortesano: y Respeto, porque en todas Facultades, y en la Ciencia Medica principalmente, te reconocì Maestro. Muy precisas han sido mis Consideraciones, para escribirte estas lineas. . . . Tú quieres, que lo escriba por extenso: Harèlo así. (1-2)

If we consider the *Carta's* larger paratextual frame with its epistolarity in mind, it is evident that Cabriada seeks to instruct his readers on the letter's discursive trajectory and how to properly interpret it. Paratexts bring to the fore, among other things, how a text produces meaning, and just as significantly, they introduce the text's array of communicative strategies that expand its horizon of reception and allow for what Gérard Genette called "a more pertinent reading of it (more pertinent, of course, in the eyes of the author and his allies)" (2). Of note is that the *Carta's* paratext does not strive to acquaint the reader with the finer points of the Duke of Osuna's illness, and in fact, nowhere in the treatise is the Duke ever named. The presbyter Antonio de Ron's and the court physician Dionisio de Cardona's "aprobaciones" of Cabriada's *Carta* bolster the centrality of blood in modern medicine. One of Cardona's key points of reference is William Harvey's theory of circulation, which in conjunction with advancements in

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<sup>3</sup> With the name Filiatro, Cabriada could well be alluding to the Swiss physician, botanist, linguist, and alchemist Evonimus Filiatro (pseudonym of Conrad Gesner), author of significant texts on zoology (the four-volume *Historiae animalium*) as well as on medicinal substances and healing. With his *Tesoro de los remedios secretos* (1552), Filiatro paved the way for "the philosophical development that throughout four centuries would stimulate the introduction of some alchemical concepts in the preparation of medicines. The culminating point of this process corresponds to Paracelsus" (Bueno 57).

understanding blood chemistry (Franciscus Sylvius and Thomas Willis) represent, in his opinion, the most revolutionary discoveries of the age. Likewise, the renowned physician José Casaleté's one-page "aprobación" of the *Carta* in Latin also directs the reader's attention to the relevance of *Sanguines Circulatione* in the development of modern medicine. Cabriada's own exordium to the *Carta* dedicated to honoring his current patron the Count of Monterrey makes no mention of the Duke's illness, but instead declaims against the practice of phlebotomy. More directly, Cabriada's exordium introduces those fundamental binaries that govern his letter: *moderno/antiguo*, *verdad/ignorancia*, and *yo/ellos* (the *junta*). Moreover, he professes his allegiance to modern iatrochemistry and to "Autores Modernos" who labor to comprehend the natural world using as their principal tools observation and reason (n. pag.). He submits that the indiscriminate practice of phlebotomy in Spain to treat all types of diseases exposes the barbarous ignorance that hinders the Spanish medical profession. While the underlying censure here of Galenic pathology would certainly not have been lost on any reader of the period, Cabriada is in fact providing his readers and "allies," to use Genette's word, with a signpost to one of the core themes that subtends his letter: the role of blood in regulating the body.

It is no coincidence that phlebotomy begins to fall from favor as a curative practice with the rise of anatomical, mathematical, and chemical sciences during the seventeenth century. Phlebotomy had been ingrained in Europe's cultural imaginary for centuries—thanks in large measure to Galenic medicine—, yet the therapeutic practice can be traced back to antiquity well before Hippocrates made mention of it in the fifth century BCE. In Spain it was so pervasive that it inspired a subgenre of poetry in the sixteenth and seventeenth centuries dedicated to the sensuous experience associated with handling the extremities of bleeding and swooning feminine subjects during the course of phlebotomy therapies (Peraita 171). As María González de Fauve has demonstrated, phlebotomy began to be seriously questioned in the sixteenth century as it was performed more freely to combat epidemics such as the plague, which had ravaged the country in the particularly deadly year of 1507 and then again in the 1560s, 80s, and 90s (1407–11). Already in 1623, the physician Lorenzo Romeo had condemned the pervasive "abuso del sangrar" in *Desengaño del abuso de la sangría, y purga* (n. pag.). Antonio Ponce de Santa Cruz's *De impedimentis magnorum auxiliorum, in morborum curatione* (1629) was more ambitious and provided medical practitioners with a nosological index to help determine when it was medically appropriate to bleed a patient. In *El siglo pitagorico, y vida de D. Gregorio Guadaña* (1644), Antonio Enríquez Gómez deploys a vivid blend of humor, irony, and wordplay to reveal the frivolousness of seventeenth-century physicians in prescribing what often resulted in fatal phlebotomies for everything from migraines to intestinal flu. José Casaleté had also criticized the indiscriminate use of phlebotomy in his important work *Duae controversiae* (1687) where he argued that a patient should be bled only if the venous blood appeared to be "spissa, supurada o apostemada" (qtd. in Martínez Vidal and Pardo Tomás 113). By the end of the century, opinions like those of Bernardino Ramazini, professor at Padua and author of the widely popular *De Morbis Artificum Diatriba* (1700) on occupational

diseases, were beginning to exert a wider influence in medical circles: “it seems as if the phlebotomist grasped the Delphic sword in his hand to exterminate the innocent victims rather than destroy the disease” (Eknoyan 8).<sup>4</sup>

To understand the more subversive character of the *Carta* and appreciate how it reframes the body economy within medical practice in Spain, we must begin with Cabriada’s objections to the phlebotomy therapies administered to the Duke. Throughout the Duke’s illness, blood was drawn from him on three occasions spaced three days apart: on day six, nine (through leeching), and twelve. Additionally, he was administered four purges. In light of the predisposing “causas externas” that conspired in bringing about the Duke’s infirmity—these included his excessive travel, dietary irregularities, courtly obligations, and the humid climate of Madrid in May—, Cabriada is confident that the Duke’s tertian fever originated from crude humors in the first region (Hippocrates designated the first region as that organ-filled area of the abdomen where blood was believed to flow more slowly) (*Carta* 43). With this diagnosis in mind, Cabriada confides in Filiatro: “Hice juízo fixo, que su causa pendia de humores gruessos, frios, pituitosos, tartareos, ê impuros, con alguna mixtion de melancolicos; y que no avia mas causa que ellos, con vicio azido y corruptela. Segun esto, le dixè â su Excelencia. . . . Que era menester purgarse” (13). Cabriada deploys a wealth of ancient and modern scholarship to explain why phlebotomy was an ill-advised treatment for the Duke’s tertian fever, and he argues that putrid fluids derived from crude humors in the first region had seeped into the Duke’s bloodstream and produced the fever. It should not surprise us, therefore, that he believed that, firstly, eliminating these humors from the Duke’s digestive tract with purges constituted the most effective treatment; and, secondly, that the application of phlebotomy therapy was not only ineffective to act upon the putrid obstructions, but it also impaired the body’s ability (in terms of vital force) to do so (88). While the Duke was in fact administered four purges in hopes of expelling the crude humors, the *junta* of Galenists ignored Cabriada’s insistence on a stricter schedule of purgation as the most appropriate treatment.<sup>5</sup> Instead, the Duke was bled, which in Cabriada’s opinion only aggravated the fever.

<sup>4</sup> In “La sangría, las ventosas y las sanguijuelas,” Diego de Torres Villarroel tells us the following about phlebotomy: “solamente en los casos desesperados se puede admitir la sangría . . . y no se debe hacer sin gravísima necesidad y consideración” (*Vida* 58). By the time of the Enlightenment, attitudes toward phlebotomy had changed significantly, yet the practice was still the most common therapeutic procedure until the early nineteenth century (Carter 1).

<sup>5</sup> Cabriada’s insistence on the therapeutic value of purgation brings to mind the “antimony wars” of the early seventeenth century between Paracelsians and Galenists. The dispute, which the Paracelsians ultimately won, introduced purgatives such as antimony into mainstream medical practice. Cabriada is conversant with Paracelsian chemistry and notes that Paracelsus, like van Helmont, was fond of using “LIQVOR ALCHAEST, del ARCANO CORALINO, del ORO ORIZONTAL, entre otros” for therapeutic purposes (*Carta* 41). Alkahest, also known as *Ignis-aqua* or Fiery Water, was a so-called dissolvent with purgative properties that was believed to aid in curing liver ailments, among other things. Furthermore, Cabriada notes that Galenists do in fact use certain medicaments—including the purgative antimony—that were popular among Paracelsians: “los señores Medicos de Camara vsan de ella, en quanto pueden, y alcançan. Vsan de Sales: vsan de algunas Preparaciones del Antimonio: de algunas del Mercurio, y de algunos Extractos” (38). Cabriada also recommends

The bulk of Cabriaba's *Carta* is devoted to offering Filiatro his closely argued rationale for objecting to the phlebotomy therapy as a responsible treatment in this specific case. Needless to say, his ensuing commentaries are more than simple clarifications of the matter, and while they deliver the major lines of thought informing his medical worldview, they also reveal him to possess a mild inferiority complex that manifests itself in his sensitivity about his young age and his unsparing display of erudition (what Pérez-Magallón explains as "el carácter riguroso de su texto") (135). It is clear from Cabriada's diagnosis that he subscribed to humoral theory on some level, and in this sense he was a Galenist (he even advocated the use of phlebotomies, but only as a last measure to relieve patients of "[una] plenitud de Sangre" [62]). Humoral theory, however, was but one component of Cabriada's larger medical philosophy, which, in the spirit of the age, was marked by eclecticism, conjecture, and ambiguity. For Cabriada, physicians had to be proficient in three classes of observations and experiments: practical, chemical, and anatomical. At the intersection of these three fields, Cabriada tells us, the physician's gaze can be drawn to one of the most fundamental and overlooked aspects of medical science: the manner in which the body is an integrated and organic system, and not a hierarchized assemblage in the Galenic sense with two discrete circulatory systems and animated by a tripartite soul.

It is worth exploring the practical, chemical, and anatomical facets of Cabriada's therapeutic thinking to gauge the extent to which they remap the body and its complex biological and chemical workings through the circulatory system and the properties of blood. In referring to practical experiments and observations, Cabriada had in mind a praxis of medicine mediated by the close analysis of the pathological body in its natural environment (*Carta* 28). Any type of scrutiny of the body and infirmity yields, as Hippocrates proposed in *The Book of Prognostics*, a *historiae*, a case history of the course of a particular disease. In the *Carta*, Cabriada puts together a case history that includes a host of symptoms that will allow him to make an accurate diagnosis, and he avails himself of the developing practices of narrativizing disease that were inspired by a reinterpretation of Hippocratic empiricism. In the Spanish context, Cabriada's method of documenting disease was not without precedent, but it was certainly innovative. There is a detached and clinical air in the way he goes about listing days one through fourteen of the Duke's sixteen-day illness—the days of most severe bodily distress—with brief and informative narrative accounts:

1. Jueves veinte y tres de Mayo, Dia de la Ascension del Señor, començò la Enfermedad de su Excelencia. Este Dia por la mañana se levantò su Excelencia pesado, y agravado. Con esta indisposicion, fuè despues de comer al Consejo de Estado, donde se aumentò de fuerre, que le obligò â salirse apresuradamente, y venirse â la Cama. Sintióse calosfriado hasta las seis de la tarde. Yo ví â su Excelencia â esta hora,

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Paracelsus's *Elixir Proprietatis* (as described by van Helmont) to aid in the cure of various gastro-intestinal diseases involving "Humores gruessos" (37).

poco mas, ò menos, y le hallè con muy buen pedaço de crecimiento, que duraria hasta las doze de la noche.

2. Al Dia siguiente Viernes, estuvo su Excelencia todo el Dia limpio de calentura, aunque postrado el Apetito. Este Día se vistió por la tarde. (5–6)

For Cabriada, medicine's practical component is rather straightforward and has to do with properly assessing and diagnosing patient problems. The physician's task, provided he can exercise his profession in a sphere of tolerance and reason, is to interpret the patient's symptoms to improve and prolong life through the practice of medicine, which did not necessarily mean forcing the patient to undergo painful and ongoing phlebotomy treatments. The implicit distinction here between medical *theoria* and *praxis* inspires him to review the practical healing techniques of twenty major schools of medicine. The type of medicine practiced on the Duke, however, figures in none of them since it is nothing short of quackery: "Y solo advierto, que se funda en la Lançeta, predominando Marte por todos caminos, cõtra la Sangre de los pobres Españoles" (34).

Before Cabriada outlines the chemical class of observations and experiments, he pauses to confide in Filiatro once again: "O què cierto es, que la Medicina, ni las Cosas Naturales, no se pueden comprender sin los Experimentos Chymicos!" (166). Cabriada's musings on the ways chemical experimentation can advance our understanding of the Duke's malady take up a significant portion of the *Carta* and draw on a plethora of iatrochemical theorists of the period. Cabriada gravitates once again to the vital properties of blood and the fundamental notion—popularized by Sylvius—that an imbalance of the body's pH was a contributing factor in producing disease. For Sylvius, bodily wellbeing depended on an inner state of acid/alkali balance, and it was the continuity of a series of chemical reactions through fermentation, principally in the blood and viscera, that vitalized the body. Salt was an integral agent in this process—it regulated the fermentation processes and balanced the body's acidity and alkalinity. With Sylvius in mind, we can appreciate why Cabriada insisted that blood is inherently alkaline and composed of a synthesis of spirits and volatile salts ("Sales Volatiles") that ferment with acids (201). "For Sylvius," as Thomas Fuchs notes, "chemical reaction in the forms of (slower) fermentation and (more violent) 'effervescence' becomes the motor of all living processes; the basic model for this is provided by the reaction of acids and alkaline agencies" (151). Cabriada takes a page from Sylvius in accepting that putrid obstructions in the digestive system, like those he conjectures are afflicting the Duke, release a foreign *materia* into the blood stream that ferments and instigates a preternatural movement of the blood, which in turn elevates the body's temperature (the cause of fever). In adopting Sylvius's approach to digestive ailments, Cabriada can effectively weld intestinal obstructions with fevers ("Calenturas podridas") to bolster his core argument that the most effective course of treatment for the Duke was a more thorough purgation regimen (73).<sup>6</sup>

<sup>6</sup> Casalete's pioneering work on "calenturas" foreshadows Cabriada's conclusions here. In Barona's estimation, "Casalete comenzó a explicar desde su cátedra a los principios de los años ochenta una interpretación del origen de las fiebres, no como fluxión humoral, como



The anatomical realm was full of mysteries for Cabriada. The sweep of “inventos,” as he referred to new discoveries in anatomy, radically redefined the representation of the body (21). Cabriada’s understanding of anatomy, considered more comprehensively, takes root in modern blood theories and their relevance to vital force and body mechanics. These theories (those of Van Helmont, Willis, Pecquet, Vieussens, etc.), all judiciously selected and interpreted, provide the foundational premises on which he defends his diagnosis and treatment recommendation. However, it is Harvey’s doctrine of circulation and Sylvius’s theory of the rarefaction of blood that most notably map the body’s interior for Cabriada. For all intents and purposes, Cabriada conflates Harvey’s circulation (what he lauds as “[el] *Nuevo Sol de la Circulacion en la Medicina*” [151]) with Sylvius’s theory of rarefaction to imagine the body as a complex network of arteries and veins characterized by a continual state of vital movement and chemical change:

Es, pues, nuevo Invento Anatomico la CIRCVLACION de la Sãgre, que Harveyo, Medico del Rey de Inglaterra, tanto ilustrò. Què utilidades no hà traído à la Medicina esta nueva Noticia, que no se varía de la Antigua por ella? La Doctrina de Pulsos, despues que se sabe la Circulacion de la Sangre en el Cuerpo humano, està clara, y patente, sin los oscuros velos con que la Antigüedad la enseñava, mediante la Facultad Pulsatil, que esta es ininteligible. Se conoce, pues, aora, despues de esta nueva Luz, que el Pulso se causa de la RAREFACCION, que adquiere la Sangre, mediante la fermentación en los Ventriculos del Coraçon, por el FVEGO, ò Fermento Vital, que reside en èl. (21–22)

Sylvius’s theory of rarefaction is indeed of great importance to Cabriada’s understanding of cardiac physiology. Sylvius maintained, following Descartes, that within the heart burned a fire. As blood entered the heart’s right ventricle, it produced an effervescence with the fire (a type of dilation), and circulated then to the lungs through the pulmonary artery where it was condensed with air and distributed to the heart’s left ventricle to be perfected. Harvey’s theory of circulation in *De Motu Cordis*, particularly as it concerns the vital properties of blood, is also critical in Cabriada’s assessment of the Duke’s illness. Harvey differed from Sylvius not only in regard to the heart’s basic functioning, but also in his ideas concerning the constitution of the blood and the origins of metabolic heat. In Harvey’s words, the heart was the active “prime mover” of the body, the “the first part to live and the last part to die,” rather than an organ whose systolic

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pretendían los galenistas, sino como una consecuencia de la alteración patológica de las partes sólidas de los órganos, que conduciría a un vicio de humores orgánicos. La fiebre sería, según Casalet, una consecuencia de la corrupción nitrosa y ácida de los humores orgánicos. Se trata, pues, de una interpretación química, muy de acuerdo con las ideas predominantes en la Europa de su tiempo” (50). Casalet, a close acquaintance, could very well have influenced Cabriada in this respect, although there are no explicit references in the *Carta*. In all likelihood, Casalet and Cabriada were employing the same iatrochemical theories to reach their conclusions.

and diastolic action was precipitated by the rarefication of blood (29). The heart circulated blood throughout the body and its extremities in a “circle” and served as the “foundation of . . . life, the sovereign of everything . . . , that upon which all growth depends, from which all power proceeds” (3). Harvey’s belief in the heart’s sovereignty would ingrain in the minds of physicians and scientists countless images of the circulatory system as a circuit, loop, or closed course in which blood nourished the body and generated heat through its own movement. When the blood finally returns to “its sovereign the heart . . . it recovers its state of excellence. Here it renews its fluidity and natural heat, and becomes powerful, fervid, a kind of treasury of life” (47).<sup>7</sup> For Harvey, therefore, the body’s energy was engendered by its own materiality and constitution, and did not originate in something as amorphous as the immortal soul of theological doctrine (in *Exercitaciones de generatione animalium* he proposed further that “the blood seems to differ in no way from the soul”) (qtd. in Thorndike 517). This theory of the centrality of the heart in replenishing the body’s energies led him to conclude that blood itself must be alive in some sense.

Cabriada synthesizes Harvey’s doctrine of circulation and Sylvius’s theory of rarefaction to offer a hybrid paradigm of how life-bearing blood flows from the heart to the extremities and vitalizes the body. What is more, he upholds Harvey’s foundational notion that the heart is the sovereign of all life, and the calculation that blood circulates throughout the body in roughly an hour (*Verdad* 150). In binding Harvey’s and Sylvius’s theories, Cabriada proposes that the heart moves blood and aids to chemically “perfect” it, or restore its life-bearing spirits. The trademark lucidity and vigor of Harvey’s scientific reasoning is also palpable in the *Carta*. In certain passages it is possible to discern subtle nuances and shifts in tone in Cabriada’s prose that elevate the vital properties of blood in a manner reminiscent of *De Motu Cordis*: “llena la Sangre de este Espiritu, en que principalmente està la Vida” (133); “[q]ue la Vida del Hombre està en la Sangre” (147); “pues es cierto, que la Vida, en tanto tiene existencia, en cuanto la Circulacion de la Sangre dura” (147–48). In some fragments there are explicit intertextual references that connect the *Carta* and *De Motu Cordis* more firmly, such as Harvey’s expression “treasury of life” and the words “balsam” and “noble” (the nobility, or ultimate authority, of the sovereign organ), which refer to the manner in which the blood’s vital properties and heat are replenished in the heart:

Es la Sangre el Tesoro de la Vida: Es en quien està aquel Vivido Balsamico Nectar: A quien Hypocrates llamò *Impetum faciente*. A quien de ordinario llaman Espiritu Vital; por cuyo Instrumento Naturaleza exerçe nobilissimas operaciones: A quien celebran todos los Filosofos, y Poëtas: A quien llamò Aristoteles la Animada, y Fecunda Substancia. Y por vltimo, es la Sangre, segun las Sagradas Letras, el Asiento del Alma. . . . [L]a Sangre (como Tesoro de la Vida) no se puede evaquar,

<sup>7</sup> This type of aristocratic “metaphorology,” as Stafford points out, brought into medical consciousness throughout the period new “consumable and manipulable images” that could render visible the invisible, make known the unknown, and facilitate a novel hermeneutics of the body (1–46).

ni derramar, sin estar los escopos presentes; esto es, Enfermedad grande, y fuerças. (66–69)

These shifts of tone and intertextual allusions bring into relief and extend the margins of Cabriada's concept of body economy, and in so doing, they compel readers to deepen their understanding of the action of vital force and how it is generated. A handful of these intertextual allusions function as subtexts in the Riffaterrean sense. For Michel Riffaterre, a subtext is a text embedded in a text—a specular *mise en abîme*—that reflects the leitmotifs of the larger narrative and represents “a unit of reading . . . [and] a hermeneutical model” (131). Subtexts serve as signposts that build up in the text (“successive variants”) to provide another level of coherence to its core meanings. Thus, the subtext is not, nor should it be regarded as, an instance of rearticulation, but rather it “always constitutes a second reading of what the text surrounding it is about. . . . The subtext thus actualizes the relationship of referentiality” (28). The following passage, for instance, functions as a subtext in the sense that it throws into relief the *Carta's* underlying rationale concerning the affinity between blood circulation and disease that is echoed in other variant subtexts throughout the letter:

Que este ESPIRITV VITAL, que es el que se destruye con las Sangrias, sea el Balsamo, que preserva à la Sangre, y à todas partes del Cuerpo humano de putrefaccion; lo PRVEBO ASSI; Porque si por algunas causas es impedido el transito de este Espiritu Balsamico à alguna, ô algunas partes, luego se corrompen, y de la misma manera la Sangre, contenida en ellas, como se vè, y experimenta cada dia las Gangrenas; y quãdo la Sangre en los Flemones se haze Materia, &c. que no por otra razon suceden estos efectos, sino porque coagulada la Sangre, no puede este Espiritu penetrarla, ni fomentarla. Y asi, destituïda de su Virtud Balsamica: (Es Salino volatil) decaë de aquella perfeccion, al miserable estado de la corrupcion, como se reconoce en los Exemplos propuestos de la Gangrena, y Flemon. Por esta causa, los Filosofos le han dado à este Espiritu diversos Nombres. Vnos, llaman-dole *Balsamo Vniversal*. Otros: *Fuego Vital*. Otros: *Sal de los filofos* [sic]. Y otros: *Fermento Vniversal*. Vease, pues, què bien harâ la Sangria, lo que la Naturaleza no puede? (131–32)

In passages like this, we see the extent to which Cabriada challenges Galenic anatomy in order to advance the idea of a universal circulatory system designed to animate the body with a vital and renewable agent present in the blood. The texture of the *Carta's* language—*spirit, vital, balsam, preservation, transit, penetrate, foment, ferment, putrefaction, corruption, and nature*—reflects the way in which Cabriada constructs the body as a dynamic system of vital movement and change, which in turn influences how his medical gaze functions in relation to disease. Admittedly, this language can be found in Galen's medical theory, and even in Aristotelian philosophy, for it undeniably traversed schools of thought and left its impress on all types of anatomical and literary texts since the early Homeric era. But the *Carta* itself, read against the backdrop of Harvey's vitalist signifiers

that it labors to build up, leaves little doubt concerning the expectation of meaning. These subtexts represent a compelling aspect of the *Carta* since they provide a window into that vein of Cabriada's medical thinking that transcends the boundaries of iatrochemistry when it comes to vital force. That is to say, while organs and flesh are sustained by a confluence of iatrochemical functions, he suggests that at a more fundamental level of somatic functioning an unknown vital force lurks in the circulating blood and invests the total body system with life (107). To be sure, this vitalist undercurrent in Cabriada's *Carta* is allusive, hard to pin down, and evocative of ancient and modern learning, and yet it obliges us to revisit his broader iatrochemical assumptions and reevaluate in a new light what we know of the Duke's fevered body.

There is little doubt that Cabriada's notions of the circulatory system, blood properties, and the functioning of the heart, particularly given his readings of Harvey and Sylvius, flew in the face of Galenic theory. For Galen, there were two different circuits of blood, the venous and arterial, and each retained specific functions and qualities (or spirits) and governed separate parts of the body. He believed that blood was generated in the liver and consumed by the body. In his estimation, the heart was not responsible for the movement of blood, but rather it served as the site where it blended with air to produce a vital spirit. And fever, moreover, was caused when hot humors overheated the heart, which in turn overheated the body. The core of humoral theory depended on a strictly hierarchized cosmology (temperaments, seasons, elements, etc.) that entwined the body with the cosmic energies of balance and change, which revealed how life mirrored the extraordinary architecture of God's universe (Kemp and Wallace 42).

It is no small wonder that Cabriada's recommendations concerning the Duke's treatment were condemned by the Galenists of the *junta*. Within a few months of the publication of the *Carta*, the military engineer and dilettante scientist Andrés Dávila y Heredia, "el Aduanero," published *Respuesta que la medicina dogmatica y racional da al libro que ha publicado el Dr. D. Juan de Cabriada* in which he refutes almost every single argument or explanation on anatomy and pathology that the "inexperienced" Cabriada had set forth in the *Carta*. Of interest is that Dávila y Heredia focuses on the theory of circulation and remarks that this "offensive" idea imported from abroad only confused the issue of pulsatile force and the tried and proven treatments of disease. In response, Cabriada published *Verdad triunfante*, a treatise in which Cabriada (via his alter ego Filiatro) defends the medical theories he espoused in his *Carta*. The anonymous and undated *Advertencias que hace un amigo del Aduanero* directed criticism of the *Carta* into a more personal and defamatory arena, and set off a series of polemics that appeared in the medical ephemera of the period. In the anonymous pamphlet *Diogenes Medico*, for example, Cabriada is not only condemned for being a "Mecánico" and for falling prey to the errors of the growing "secta Empírica," but he is also criticized for questioning the efficacy of phlebotomy procedures (6). A response to this pamphlet appeared shortly thereafter titled *Coloquio entre Diogenes y Pedro Grullo* that defended not only Cabriada, but also other physicians like Agustín Gonzalo Bustos de Olmedilla, a strong opponent of phlebotomy whose treatise *Monstruo horrible de Grecia, mortal enemigo del hombre* (1669) was aimed at

discrediting Galenic medicine. The young Diego Mateo Zapata also criticized Cabriada in *Verdadera apologia en defensa de la medicina racional filosofica* (1691), a treatise that likewise condemned José Gazola's *Entusiasmos medicos, politicos y astronomicos* (1690) since it praised Cabriada's innovative work.

In *Verdad triunfante* Cabriada presses the question of vital force into new realms of inquiry and ponders, as did Harvey, whether, in fact, the immortal soul regulates the bodily self. Needless to say, this line of inquiry was a provocation that challenged the bedrock assumption of Christian theology that the immortal soul vitalized the body. Cabriada fashions an image of a pulsating heart torn from a man's chest—a rather grisly image borrowed from Descartes—and he beseeches his readers to conjecture from what source the organ's vital force originates if it is no longer appended to the body. If the immortal soul flees from every last particle of flesh upon death, as theological doctrine dictates, what enigmatic spark, what intrinsic vigor induces the organ to continue its systolic-diastolic action? Furthermore, why does life, once perceivable throughout the entire body, linger now only in this lone organ?:

Pregunto, què cosa es *esta facultad* [de la pulsación del corazón]? Que sea el alma, no se puede dezir, pues es experiencia, como dize Renato Descartes, que arrancado el coraçon de vn hombre recien muerto, violentamente pulsa: aqui ay pulso, y no ay alma; luego no se puede dezir que esta facultad pulsatil sea el alma. Ademàs, que el alma no es señora, ni puede dominar los movimientos del coraçon, ni ellos penden de sus cogitaciones. . . . [S]i el pulso pende de la facultad del alma, como, o por donde pudiera pulsar el coraçon de vn hombre despues de muerto, pues no tiene alma? (60–64)

Cabriada brings the image of the Cartesian excised heart to bear upon the constraints of the soul concerning vital force. It is as if all Cabriada needed in order to shake the great edifice of theology were to present this anatomical image of a beating and bodiless heart—life and death inextricably rendered in the palm of the hand. In the end, he accepts the conclusion that the body contains within itself the source of its vital force. Thus, the soul is by no means its “señora.” And with the word “señora,” Cabriada might very well be attempting to undermine the famed Platonic opposition presented in stanza 13 of Jorge Manrique's *Coplas a la muerte de su padre* that conceives the body as the slave, or “cativa,” to the soul, which is described as its mistress, or “señora” (25).

A question comes to mind when we take stock of the *Carta's* staging of disease: can vitalist and iatrochemical theories, like those of Harvey and Sylvius, be reconciled? In Cabriada's medical understanding, the iatrochemical framework is in no way impoverished by the latency of vitalistic notions. The overlapping models of vital force—Harvey's theory that vital force is generated in the materiality of circulating blood, and Sylvius's belief that vital processes spring from fermentative action—are complementary and mutually illuminating, and allow us to better appreciate Cabriada's medical praxis as a scientifically based method of realigning the body's energies beginning with the blood. When Cabriada

penned his *Carta*, iatrochemical theories stemming from a revisionist understanding of the circulatory system were still not widely disseminated in Spain, yet the crucial rapport between vital force and chemistry that would resonate within the medical profession throughout the Enlightenment is already perceptible in his thinking. The debate in the seventeenth century concerning what exactly constitutes life—whether it was mechanically or biochemically derived—established that foundational “counterpoint,” to borrow George Rousseau’s term, that propelled the line of vitalist inquiry that runs from Georg Ernest Stahl to Johann Friedrich Blumenbach (32).

What brings together this argument of vital force is how the *Carta*’s vitalist claims buttress the iatrochemical framework when it runs up against a limit of interpretation. One such moment is specified in the question the *Carta* raises about the body and disease: what is it about the constitution of blood itself at its most intrinsic level that vitalizes the body and saves it from fever and decay? While Cabriada enlists the science of Sylvius, van Helmont, Willis, and others to answer this question, it remains clear that their theories can only take him so far. My argument has been that Cabriada’s *Carta* articulates this point and makes it obvious to the reader: the letter strings together a cohesive set of iatrochemical arguments, but returns repeatedly to circulation and blood’s vital properties. By privileging a generative, unknown force produced in circulating blood, Cabriada is able to conceive of a body divested of the hierarchies of Galenic humoralism. The truth is that Cabriada challenges humoral theory the moment he brings into play a dynamic and universal circulatory system whose purpose is to replenish throughout the entire body “[un] Espiritu Balsamico, Corrector de toda putrefacción” (166). Implicit in Cabriada’s *Carta* is the assumption that the body—every body—bears within itself, within its very materiality, a vital force that makes it difficult to read and control within the theoretical frame of Galen’s medical philosophy. And given the *Carta*’s many foreign referents and its tangled lines of theoretical inquiry, one Galenist physician feared, in an anonymous pamphlet criticizing the *Carta*, that Cabriada sought to “trocar vna Medicina Catolica en Luterana” (*Diogenes* 7).

The circulatory system and its role in the processes of life remained a central point of contention among Spanish physicians, precisely because it displaced and oftentimes stripped away the very foundations of Galenic humoralism. “El leit motiv de los novatores españoles,” write Martínez Vidal and Pardo Tomás, “sería la controvertida doctrina de la circulación de la sangre. . . . [L]a circulación sería vista por los galenistas más recalcitrantes o ‘intransigentes’ (Matías García, Cristóbal Tixedas) como un auténtico peligro que podía pervertir muchos dogmas médicos verdaderos” (108). Even when the circulatory system was generally accepted as fact in Spain in the early eighteenth century, traditionalists argued that the ancients had been the first to discover it.<sup>8</sup> In 1717 the physician and Aristotelian Juan Martín de Lesaca contended that Harvey had in

<sup>8</sup> López Piñero points out that “los galenistas Luis Enrique de Fonseca (1687), Alonso López Cornejo (1698) y Pedro Aqueza Mossa (1696), aceptaron, por ejemplo, la doctrina de la circulación de la sangre, pero preocupándose de subrayar que Galeno o Hipócrates ya la conocían aunque no la hubieran desarrollado” (*Historia* 56).

fact arrogated Galenic doctrine to develop his theory of circulation (10–13). Even Feijóo embedded circulatory theory in a displaced past, but he went a step further and rooted it in a distinctly Spanish past as the invention of the sixteenth-century polymath Miguel Servet and the veterinarian Francisco la Reyna (270).<sup>9</sup> Clearly, any science in seventeenth- and eighteenth-century Spain concerned with interrogating, much less revising epistemological claims, especially those associated with the basic functioning (and medical disciplining) of the human body, was considered subversive by those apparatuses of power that stood the most to lose in such a maneuver. And as a letter penned by a court physician against court physicians and invested with the authority of reformist intellectuals of the stature of Antonio de Ron, José Casalete, and Dionisio de Cardona (himself a court surgeon), Cabriada's *Carta* exposes this schism at the uppermost spheres of Spanish medicine.

The most subversive aspect of the *Carta* is neither its championing of Harvey's circulation or Sylvius's theory of rarefaction, nor is it its many criticisms leveled against the medical establishment. At the center of the *Carta* stands the claim that the body, in all its wondrous complexity and mystery, is not vitalized by the soul. Cabriada's account of life hinges upon the dynamic, life-bearing force produced when properly alkalized blood—itsself alive—circulates through the heart and nourishes every part of the body. There is no escaping the special emphasis he places on the material genesis of vital force (the reader is drawn repeatedly to the marvels of blood and the circulatory system), and it should come as no surprise that the soul is mentioned a mere three times in the 234-page-long *Carta*. In the end, Cabriada's *Carta* not only challenges the epistemology that undergirded the medical establishment in Spain by wielding the establishment's own therapeutic reasoning against itself, but it also places before the reader a series of questions concerning what constitutes the mysterious vital force that makes us who we are. How do the motion of the heart, the properties of blood, and the workings of the circulatory system vitalize the body? What produces bodily movement and change? What causes disease and how can we maintain a state of wellbeing? Where is the seat of life exactly, if it is not in the soul? All these questions are bound up in an epistolary form in which the young and daring Cabriada confides to his readers that the modernization of Spanish medicine depends on a new understanding of the body economy. For traditionalists, by raising questions and transforming the body into a locus of inquiry and resistance, the *Carta* threatened the very bedrock of their time-honored traditions and beliefs, while for the advocates of reform it revealed the liberating possibilities of science and medicine. There is no doubt that Cabriada's *Carta* transformed him into a spokesman for the *novator* movement, which won him the favor of the highest and more reformist ranks of the nobility when he cofounded the Real Laboratorio Químico de Palacio in 1694. In the final years of the seventeenth century, he worked with like-minded reformists to found Seville's Regia Sociedad de Medicina y otras Ciencias in 1700, Spain's first State-sanctioned society devoted to the study and dissemination of modern science.

<sup>9</sup> For Feijóo's full consideration of Francisco la Reyna's work on the circulatory system, see *Cartas eruditas y curiosas*, Vol. 3, Carta XXVIII. See also J. J. Keevil and L. M. Payne's *Francisco de la Reyna and the Circulation of the Blood*.

Indeed, Cabriada's ideas on vital force were disseminated through Seville's Regia Sociedad and found their way into mainstream medical practice for a small, but enormously important group of reformist intellectuals who would make it their aim to usher Spain into the Enlightenment.

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