Sensible Instruments: Remaking Society through the Body in the French Enlightenment

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INTRODUCTION

The Philosopher-Instrument and the Culture of Sensibility

The question is an odd one: to what extent is a philosopher like a harpsichord? It is somewhat reminiscent of the rhetorical “why is a raven like a writing-desk” riddle from *Alice’s Adventures in Wonderland*, but if you’ve read Denis Diderot’s *Le Rêve de d’Alembert*, you know that this question has an answer. In this dialogue, a fictionalized version of Diderot debates metaphysics with a fictionalized Jean le Rond d’Alembert, with appearances by equally fictionalized versions of the *salonnière* Julie de L’Espinasse and the vitalist doctor Théophile de Bordeu. The text is filled with fever dreams, speculations, and philosophical conundrums. The above question appears only several pages into the dialogue, and from there, things only get curioser and curioser.

The answer to the question is this: the philosopher and the harpsichord are both instruments. In a harpsichord, plucked strings vibrate and pass their vibrations on to other, nearby strings. “This instrument can make astonishing leaps,” Diderot exclaimed; it has the ability to create tones, harmonics, and beauty out of simple oscillations.¹ Humans operate in the same manner, he explained. The philosopher’s nerves vibrate like plucked strings, drawing forth the notes of life. “One idea calls up a second, these two a third, all three a fourth, and so on….If this phenomenon can be observed between sonorous strings, inert and separate, why wouldn’t it take place between living and connected points, between continuous and sensitive [*sensible*] fibers?”² Yet the two instruments are not completely alike. Where a harpsichord is unaware of

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² Ibid.
the pluckings and tunings to which it is subject, the philosopher feels them all. Diderot explained, “The philosopher-instrument is sensitive [sensible]; he is at the same time the musician and the instrument.”

Sentience and sensibility were the distinctions between the inanimate harpsichord and the thinking, feeling, breathing philosopher. D’Alembert clarified, “If a sensitive [sensible] and active harpsichord were endowed with the ability to feed itself and to reproduce, it would be alive and give birth—either with itself or its female—small, lively, and resonant harpsichords.” There would be no qualitative distinction between humans and harpsichords. “No doubt,” Diderot responded. “We are instruments endowed with sensibility and memory.”

As any scholar of eighteenth-century France knows, Diderot had a penchant for off-the-wall philosophical proofs. Indeed, a world populated by walking and talking (waddling and tinkling?) parent-harpsichords and their “lively and resonant” children offers quite the mental image. This fantastic conceit helped Diderot advance his unorthodox materialist philosophy, showing that the lines between inert and living matter are rather thin. The ideas presented in the text were controversial, to say the least, and Le Rêve de d’Alembert had only a limited, clandestine circulation during Diderot’s lifetime. It horrified Julie de l’Espinasse, and d’Alembert asked Diderot to destroy the manuscript. Yet in the midst of this strange passage, Diderot raised a point that would have been uncontested in the eighteenth century: the notion that people are sensible instruments. This point was central to eighteenth-century culture and to the

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3 Ibid.

4 Ibid., 618.

5 Ibid.

6 Ibid., 617.

project of Enlightenment itself. This book focuses on how the feeling body became an instrument, in multiple senses of the word. As Diderot so colorfully demonstrated, it was analogous to a musical instrument, vibrating with feeling and sending melodies of emotion into the world. It was also a tool that enabled social interaction, political exchange, and economic commerce. And it was a means by which ends were effected, many of which were related to Enlightenment discourses of progress and perfectibility.

When we think of an “instrument,” we often think of something that serves a unified purpose—a hammer hits nails, a violin plays music, a clock tells time—but any anthropologist will tell you that instruments are context-specific. Practices of appropriation and bricolage diversify the ends to which instruments are put, such that a single soda bottle can be used to make music, grind grain, or cure snakeskins. In the eighteenth century, institutionalized concepts of utility were not dominant in the way that they would be in the following century, and there was not a singular social goal at stake in Enlightenment reform efforts. Instrument though it may have been, the uses to which the body was put were still very much up for debate. The feeling body became the bearer of a multiplicity of aspirations, agendas, and fears, and the discourse of sensibility, in particular, permitted a wide array of meanings and practices to emerge, co-exist, circulate, and merge.

The physician Henri Fouquet wrote in his 1765 Encyclopédie entry on sensibility, “The nature or essence of sensibility has always been a curious point and the most troubling of its history.” This statement is no less true for historians today than it was for natural historians,

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8 The Gods Must Be Crazy, directed by Jamie Uys (Ster Kinekor and 20th Century Fox, 1980).

physicians, and metaphysicians in the eighteenth century. Sensibility has long been a catchword for scholars of the Enlightenment, yet it remains an elusive concept, casting its vague and shifting shadow across literary studies, history of science, philosophical investigations, and cultural histories. In the nineteenth century, the French historian Hippolyte Taine reported that sensibility “spread its influence” over “every detail of private life,” to such an extent that “sensibility [became] an institution.” In 1956, Northrop Frye called the second half of the eighteenth century an “age of sensibility,” and we frequently talk about an eighteenth-century “culture of sensibility.” Yet if sensibility really was a culture, what way of life did it entail? What were its adherents’ customs, contexts, practices, and beliefs? How did it pervade and structure daily life, and how did it shape the ways in which people experienced the world around them? Such questions have occupied generations of scholars, and the list of books in which sensibility features prominently is a very long list indeed. That said, it is worthwhile to identify points of consensus and major themes, and to treat the historiography with a broad stroke, analyses of sensibility have tended to fall into two categories: those that deal with sensibility in terms of its relationship to sentiment and sentimental cultural products (like the novel, theater, art, etc.) and those that treat it as a medical concept.

With the former, sensibility refers, in the words of Janet Todd, to “the faculty of feeling, the capacity for extremely refined emotion and a quickness to display compassion for suffering,” or an “innate sensitiveness or susceptibility revealing itself in a variety of spontaneous activities such as crying, swooning and kneeling.” Spectators would watch theater performances while

tears welled in their eyes. At operas, dramatic spectators would sometime enter hysterical states, generously called *bouleversements*. Readers were struck by the archetypal “man of feeling,” who was, “because of his sensitivity, either seized by the wretchedness of the world while trying, with varying degrees of success to do good, or else died...of unhappy love.”

These types of interpretation grants sensibility some physical power, but by and large, they focus on sensibility’s connections to affectivity, stressing the emotional or aesthetic responses of sensible individuals. Less explicitly physical accounts tend to focus on the cultivation of sentiment, fellow-feeling, and sympathy. By focusing primarily on affectivity, these accounts often neglect or minimize the centrality of sensibility to eighteenth-century physiology or the role that sensibility played in the development of rational mental faculties. Such a position is evident in Stefano Castelvecchi’s claim that sentimental operas taught spectators “the ideology of sensibility”: “the belief that sentiment can be a better guide than reason.”

Furthermore, many of these interpretations take the spheres of aesthetics and cultural production as their starting point. In this framing, scholars have focused on how art can produce certain types of social behaviors, but they have paid little attention to the reverse, meaning that many of these analyses fail to consider how sensibility’s power operated beyond the usual cultural forms. For example, David Denby argues that sensibility, as a concept rooted in the sentimental novel, generated social action and gave rise to humanitarian impulses. In other


words, sensibility had social power, but only inasmuch as it derived from the sentimental novel. According to Denby, “sensibilité, for all its status as a documented form of social behaviour, has its roots in texts which represent, repeat, and celebrate the act of being moved.”17 Similarly, John Mullan has claimed that “sentimental texts don’t reflect societies; they produce them.”18 I do not deny the power of sentimental texts, paintings, performances, music, or other cultural forms; art has the power to change us, create new worlds, and shift the cultural landscape in radical ways. However, it is too narrow to consider sensibility only as an affective response to textual representations, and by placing too much weight on sensibility’s place in art, literature, and music, we may neglect its other contexts and characteristics.

The other main historiographical thread errs in the other direction, treating sensibility primarily as a physiological construct, a principle of living matter tied to nerves and fibers and set in motion by sensory stimulation. In her seminal study on the science of man, Elizabeth A. Williams adopts this approach, treating sensibility as a prominent medical concept that required the interrelation of the physical and moral in the long eighteenth century, but she does not develop the full range of sensibility’s cultural applications or meanings.19 Just as it is too reductive to consider sensibility only as an affective principle, it is equally reductive to consider it only as a physical one.

To be sure, there are scholars who have developed more comprehensive definitions of sensibility by stressing the emotional and physical aspects in equal measure. Canonically, G.S.


Rousseau described the ways in which sensibility functioned as a bridge between the physical and moral. Anne Jessie Van Sant has pointed out the importance of treating sensibility in relation to what she deems “the three principle contexts in which sensibility was a key idea in the eighteenth century”: physiology, epistemology, and psychology. Jessica Riskin, arguing against the traditional separation of the Age of Reason and the Age of Sensibility, suggests considering Enlightenment scientific practice as “sentimental empiricism,” a mode of inquiry in which emotion and experience were blended. Stephen Gaukroger has argued that “sensibility/sensitivity/sensation [was] a unified phenomenon having physiological, moral, and aesthetic dimensions.” Most recently, Henry Martyn Lloyd has compiled an edited volume that focuses the ways in which the discourse of sensibility fostered the Enlightenment concept of “the knowing body.” The foregoing works all establish a crucial aspect of sensibility, which is its ability to cross the typical mind/body boundaries, and one of the greatest steps forward in the scholarship on sensibility has been the recognition, in the words of Anne Vila, that “the various meanings attached to sensibility tended to be mutually permeable because eighteenth-century

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authors used the word as a bridging concept—a means of establishing causal connections between the physical and moral realms.”

All in all, generations of scholarship on sensibility have given us a rich, varied sense of the concept, but many of these studies still take a limited set of genres as their point of departure. We have learned a great deal from these traditional areas of focus, but I argue that it’s time to open the lens wider and explore some of the other, more wide-ranging implications of sensibility. Ultimately, if we are to take seriously the idea that there is a culture of sensibility, it is not sufficient to define sensibility only as physiological construct that influenced cultural forms, nor is it sufficient to treat it as an aesthetic or literary value with physiological repercussions. We have to move beyond these usual suspects and treat sensibility in its full discursive and practical complexity by asking, “In what other contexts was the discourse operative?” This call is not a new one. In 1992, G. J. Barker-Benfield stressed that many scholars limit sensibility to the cult of feeling, the cult of refined emotionalism, and the cult of Rousseau, but “contemplating the magnitude and pervasiveness of the phenomenon, embedded in a much wider range of evidence than literature, it must be concluded that the cult was an epiphenomenon of a ‘culture’ of sensibility.” Barker-Benfield linked sensibility to consumerism, gender politics, and religious practice, and others have followed his lead in expanding the concept. Stefano Castelvecchi has argued that “Some form of sensibility or sentiment became important, when not foundation, in virtually every field from medicine to literature, from theology to social and economic theory.” Jessica Riskin has shown how sensibility operated within scientific discourse, Emma Rothschild


has explored sensibility’s relationship to political economic theory, and Rebecca Spang has located sensibility in the new public setting of the restaurant.  

What this book offers that is new, though, is the emphasis that it places on sensibility as an instrument. Sensibility did not only generate new cultural forms; it was a tool that reformers used, time and again, to shape the world in which they lived. It functioned both as a weltanschauung upon which social thought took its foundations, and as a language that was mobilized, employed, manipulated, and molded to bolster savants’ theories and calls to action. It was also a tool used by common people to make sense of the world in which they lived. Sensibility gave them opportunities for self-fashioning, extended their control over their own bodies, and showed them new ways to “fit in.” It helped them understand their relationship to the state, to each other, and to themselves.

*Sensible Instruments* integrates the narratives that have emerged from studies of sensibility in relation to medicine, philosophy, and literature, with new areas of study that expand the contours of that scholarship. It unites theories about sensibility with the details of how they were put into practice, showing how the ideas with which we are familiar were integrated into more localized contexts. With reference to sensibility and its power to alter the body and mind, reformers created new social ideals, and in doing so, created new ideas about what constituted a functional society. There was an on-the-ground component to sensibility that did not revolve around novels, theater, or art, crucial though those forms were. There were political tactics, economic exchanges, commercial reforms, educational efforts, and many other

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29 Non-naturals are things outside the body that affect its health, such as food, drink, air, etc. These will be discussed in Chapter One.
Enlightenment projects that took sensibility as their basis. This book will explain why sensibility served as a key means of discussing and initiating social reform, what sorts of social visions emerged from texts on sensibility, and how these spread into daily practices and concrete social projects. To be clear, I am not claiming that social reform took no other paths in the late eighteenth-century. What I am claiming is that sensibility, which has been long-studied as a dominant concept in the era, needs to be investigated, not just in terms of its affective and physiological implications, but also in terms of how those implications came to bear on a vision of the social good. During the Enlightenment, the discourse of sensibility created a space for new concepts of society, the individual, and social reform by placing the body front and center in debates about human and social potential.

Recognizing the importance of the “sensible instrument” to Enlightenment culture is significant for several reasons. By looking at the feeling body as an instrument, it becomes easier to treat the culture of sensibility as a true culture, which simultaneously encompassed the arts, sciences, social life, habits, achievements, and intellectual patterns of eighteenth-century France. Sensibility operated as a totalizing concept, whereby various ontological and social realms functioned holistically. Its cultural scope was equally expansive, and by reorganizing and synthesizing many of the insights of previous scholarship, *Sensible Instruments* offers a reformulated concept of sensibility that enables an analysis beyond the generic boundaries usually applied to it. This framework will allow scholars to see new contexts and ways in which sensibility penetrated, not only science and literature, but also politics, commerce, social interactions, and the fabric of daily life. The integration of sensibility into new realms will help scholars refine long-standing concepts whose direct intersections with the senses or the body have long gone unnoticed or unexplored.
Secondly, the body has been a hot topic in recent decades, and understandably so. Much of our daily life revolves around the corporeal habits of eating, sleeping, and breathing, and our bodies allow us to feel the rich textures of life. Bodies give phenomenological solidity to experience, situating us, by means of the senses, in relation to external objects. It seems an obvious fact to us that bodies are instrumental given that we avail ourselves of them with each passing instant, but we do not always consider the body’s instrumentality beyond the realm of our own experience. Eighteenth-century *philosophes*, physicians, and reformers recognized, though, the close relationship between the individual body and collective structures. They acknowledged that any analysis of the body entailed social conclusions, and they frequently debated the body’s role in perception and in social life more generally. Voltaire, the master of acerbic acuity, wrote in his *Dictionnaire philosophique*, “It may be that the number of senses increases from globe to globe and that a being who has innumerable and perfect senses is the ultimate goal of all beings. But as for us with our five organs, of what are we capable?” And physicians like Claude-Nicolas Le Cat speculated on the possibly of giving the minds of men “a degree of perfection” by “studying the temperament of men and delving into the effects of food and remedies on them,” since “the mind [*esprit*] depends very much on the animal nature of *man.*” The limits of human capability, and thus the limits of human society, were for these thinkers intimately bound to the possibilities of the body, and discussing the individual, physical body became an effective means to make claims about the collective, social body as well.

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Michel Foucault famously argued that the eighteenth-century marked the rise of a new type of noso-politics, or, a politics of health wherein disease and well-being became the objectives of social and political power. Nowdays, his analysis tends to be met with nods of acceptance or sighs of overfamiliarity, but in light of the extensive attention the body has gained in the recent past, it’s important to revisit his theories. Foucault’s analysis of these new noso-politics focuses on the body as a general category of analysis, rather than on the particulars of eighteenth-century notions of the body. In doing so, he neglects a crucial aspect of the process by which the body took on social significance. “The body” is a vague, nebulous, and rather expansive construct, and Sensible Instruments will show that rather than broad concepts of the body, the specific contents of the discourse of sensibility forged the link between the individual body and particular social goals. Sensibility pertained both to the physical body and the moral being, and consequently, it opened the door to social and political conclusions that would not have developed out of conversations concerned only with the physical body. Foucault ultimately stressed the link between the body and soul, but it was only thanks to sensibility’s bridging capacity that this connection was able to emerge in the first place. With sensibility at the center of the equation, fresh concepts of “the body” and its capacities come to the fore, and it opens a new space for scholars to think about the limits of “the body” as a category of study, a category that I would argue is more expansive in the eighteenth century than we typically imagine.

Thirdly, the case studies in my book make clear that sensibility provided a language for reformers to address concepts like “public good,” “social good,” and “utility,” which, like sensibility, covered a gamut of meanings and possibilities. For some philosophers and reformers, utility could be equated with economic productivity, and for others, happiness and utility were

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inseparable bedfellows. For others still, utility, public good, happiness, and productivity existed as a single, conflated goal. A diversity of opinions circulated about these social values and the best means of approaching them, and while sensibility may not have created a single, coherent, or stable consensus, it furnished a language that was sufficiently bounded and yet flexible enough to facilitate the discussion of social values that linked the individual body and collective goods. Debates about the feeling body provided a fertile ground for more general discussions about what constituted a functional society. This book makes clear that these concepts were closely intertwined with sensibility, and together, they helped form each other, ultimately creating a clearer idea of what “society” and its attendant goods meant to eighteenth-century reformers. Historians have long regarded the eighteenth-century as the era that gave birth to the concept of society, and as this book will show, the discourse of sensibility often served as its midwife.33 Through concepts of the sensible body, a new vision of the social whole emerged, as did accompanying concepts of individuality and particularity.

Finally, sensibility has received a great deal of attention in the last few decades for its intimate liaison with sympathy. A number of books and articles have focused on the power of sensibility in advancing an eighteenth-century “humanitarian narrative” that contributed to the advent of human rights, the abolition of slavery, and a new moral imperative toward poverty, violence, and suffering.34 The concept of sensibility presented in this book does not undermine


these narratives, but it does demonstrate that sensibility was a versatile language used for a wide variety of purposes. Sensibility functioned as a powerful discursive platform, but the language of sensibility did not always appear as one of unmitigated benevolence or purely sympathetic feeling. The humanitarian narrative existed alongside a host of other narratives that also made use of the discourse.

While sensibility was a pan-European concept, I focus only on its place in France. This limitation, while partly necessary from a practical standpoint, is certainly not arbitrary. The French concept of sensibility was related to those operative in England, Germany, and various other countries, had a number of particularities that set it apart. Anne Vila has quite succinctly identified three major points of divergence: 1) French sensibility was closely linked to the advance of secularization; 2) for the majority of the eighteenth century, gender did not play as significant a role in French sensibility as it did in Britain; 3) French sensibility managed to maintain “a pronounced physicalist or materialist undertone, without provoking any major outcry from the defenders of morality and religion,” thanks to the widespread appeal of medicine in elite social circles. When these particularities are added to the specific style of medicine advanced by Montpellier vitalists and the specificities of certain social systems—corporate regulations, royal institutions, veteran care, etc.–the French case presents a distinct site for analysis. That said, there obviously was a lot of cross-pollination between French writers and those of other European nations, and in a more expansive study, it would be fruitful to see how the claims in this book could be extended to other contexts.

*Sensible Instruments* is split into two parts, each of which takes as its focus one half of the equation: sensibility and instrumentality. The first part, “Sensibility,” is more intellectual-historical in nature, and it focuses on the development and characteristics of the discourse of

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sensibility. Chapter One begins with the two fields of thought that have most often formed the core of analyses of sensibility: sensible medicine and sensationalist philosophy. Taking these areas as the point of departure, I redefine sensibility according to a set of four characteristics that it shared across its many applications. This framework offers a definition of the concept that is versatile enough to allow for the concept’s conceptual breadth but stable enough to permit the clear identification of the discourse across many contexts. These characteristics take into account the medical, philosophical, and literary contexts in which sensibility played a central part but also make clear the pervasiveness of the concept in other areas, like commerce, politics, and education.

Chapter Two focuses on the ocular harpsichord of Louis-Bertrand Castel, a visual-musical instrument that was designed to harness natural correspondences between sound and light. This chapter operationalizes the model set forth in Chapter One and gives a clearer account of how the discourse of sensibility emerged around the 1740s. Castel’s work pre-dated the rise of vitalist medicine and the canonical sensationalist philosophy of Condillac, but nevertheless, many of his theories bore a close resemblance to those that would take shape as part of the discourse of sensibility. The critical response to Castel’s writings—which drew in a number of prominent philosophers including Jean-Jacques Rousseau, Denis Diderot, and Voltaire—reveals a great deal about the development of the discourse of sensibility as it shifted from a loose, implicit set of concepts to a more explicit, stable set of characteristics. Chapter Two focuses mostly on pre-1740 critiques, while Chapter Three highlights the post-1740 response to Castel’s work, as well as the social ends to which Castel oriented his work.

Part Two, “Instruments,” covers cases in which the discourse of sensibility was operative, charting the way in which it spread beyond the technical domains addressed in Part One to
become a central component in broader discussions of daily life, sociability, and skill. Chapter Four deals with the proliferation of “regimens of talent” in philosophy and education. These regimens consisted of highly prescriptive measures that targeted behaviors, hygiene, and eating practices in order to manipulate sensibility. In particular, I focus on Antoine Le Camus’ *Médecine de l’esprit* (1753), Jean Verdier’s school for the handicapped, and Valentin Haüy’s school for the blind. Together, these cases illuminate relationships between the individual body and collective good; the animal economy and political economy; and pleasure, utility, and national identity.

Chapter Five focuses on two separate moments in which royally-sponsored institutions turned their attention to the treatment of paralysis with medical electricity. In the 1740s, the Académie des Sciences experimented with medical electrical treatment on paralyzed war veterans at the Hôtel des Invalides. These experiments ultimately failed, but medical electrical treatment came back to favor in the 1770s and 80s when Pierre Jean Claude Mauduyt de la Varenne, a member of the newly formed Société royale de medécine, was entrusted with the investigation of medical electricity as a treatment for paralytic maladies. These two waves of experimentation lay bare the commercial and political potential that reformers saw in sensible projects, situating the individual body at the center of a web of political and scientific concerns that ultimately sought to incorporate all individuals into a functional, productive, and moral social whole.

Lastly, Chapter Six deals with a more “vernacular” area in which the discourse of sensibility came to the fore: the limonadier’s shop. These shops, which were more familiarly known as cafés, offered clientele a wide array of treats, ranging from coffee, tea, and hot chocolate to liquor, fruit drinks, and ices. Scholars have established that cafés were important
sites for sociability, but many of these analyses have focused more on the types of interactions that took place in these shops rather than on the goods sold in the shops themselves. This chapter explains why the beverages sold in limonadiers’ shops supported and encouraged the development of these spaces, in particular, as sites for sociable interaction. According to Enlightenment medicine, beverages and the ingredients therein had the power to directly affect the temperament, mental faculties, and physical makeup of the individual who used them. Consequently, these products had a double identity as recreational and medicinal goods, and by selecting specific products, consumers participated in conscious acts of self-creation.

Ultimately, Sensible Instruments shows that sensibility was much more than a concept that referred to the constitution of an individual’s emotional and aesthetic apparatus. It was a language that struck at the constitution of society itself.
PART I: SENSIBILITY

CHAPTER ONE

The Troubling Essence of Feeling:
The Stable Characteristics of Sensibility

In 1769, the physician Antoine Le Camus observed, “The human mind [esprit] is a true chameleon, which takes on all the colors of the objects that surround it.”¹ Much the same could be said of sensibility, which, for the better part of a century, shifted and glided through hundreds, if not thousands, of conversations, treatises, and practices. Depending on context, the concept morphed and added new inflections to the worldviews of eighteenth-century people. Soon “sensibility” was joined by its terminological bedfellows “sentiment,” “sentimental,” “sense,” “sensation,” and “sympathy.” As Henry Martyn Lloyd has noted, these terms “are to be read, as they were used in the period, with a good deal of imprecision…the terms bleed into one another such that they are perhaps best described as a family of concepts, rather than as clearly demarcated individuals.”² A basic search of the ARTFL database proves just how frequently these terms appeared in eighteenth-century texts. Whether we view them as bedfellows or a family of concepts (although the two metaphors probably should not mix), these terms carried a great deal of discursive power. But thanks to sensibility’s chameleon-like properties, it has been perpetually difficult to pin down what they meant to historical actors and why they were so terribly important.

¹ Antoine Le Camus, Médecine de l’esprit (Paris: Ganeau, 1753), 247.

To a large extent, sensibility has been so slippery because of its immense versatility. Sensibility was expansive enough to cover a wide range of bodily practices, mental processes, and moral responses across a wide variety of intellectual and practical fields. Ever able to cross mind-body boundaries and multiple fields of enquiry, sensibility’s cultural power seems to have come precisely from its nebulosity and adaptability. But recognizing this versatility is not sufficient to understand the ways in which sensibility fit into the eighteenth-century worldview. While any good definition of sensibility should take its breadth into account, there must also be some discussion of its limits.

A great deal of ink has been spent on sensibility, and as such, many of the concepts presented in this chapter are not so much “new” as reorganized, curated, and repositioned, so as to provide a framework for thinking about the great deal of scholarship that has been produced on the topic. As one might expect from such an important concept with such an august history, there has been some truly innovative work on the sensibility, much of which I accept, respect, and trust. Yet many elements of this scholarship have developed piecemeal, and I argue that there is a great deal to be gained by synthesizing the various facets of sensibility into a clear, workable set of concepts. This chapter provides a newly formulated concept of sensibility that explains how and why sensibility expanded across the generic boundaries usually applied it. I offer four stable characteristics, which functioned like family resemblances and remained broadly present in accounts of sensibility and operative across the many domains in which sensibility featured prominently.³

³ For now, I bracket the question of how these characteristics came into being. The next chapter will answer that question more fully.
Space planning is one of the most crucial aspects of interior design, and a designer can make a huge impact by simply rearranging the furniture. Reorganizing can free up floor space, improve a room’s flow, and make an area feel even more spacious, and I argue that we can do the same by moving around the mental furniture that fills sensibility’s sitting room. By shifting things around, this chapter seeks to shed light on new, uninspected corners, provide new vantage points, and highlight some of the spaces and gaps that still need to be filled. Subsequent chapters will show how sensibility operated beyond the contexts of sensible medicine and sensationalist philosophy, but it is undeniable that the most direct iterations of the concept occurred in these two areas. In order to establish a clear definition, this chapter will rely primarily on medical and philosophical texts, but the sensible tenets established were not limited to these areas. They permeated literature, art, politics, science, and social criticism just as fully.

By thinking of sensibility according to its four major attributes, which I refer to as its “stable characteristics,” a new image of the concept emerges: that of sensibility as a social tool. Sensibility was not solely regarded as a property residing in the body or a characteristic attributable to a person with excellent aesthetic capabilities. It was a force to be harnessed for the good of society, and it was through sensibility that thinkers sought to channel talent, sociability, and temperament for social ends. Through recourse to the language of sensibility, reformers were able to advance social and commercial projects oriented to many competing notions of “social good,” express hopes and concerns about the role of the individual within society, and forge new types of social relationships and institutions. Before moving into the stable characteristics that united sensible medicine and philosophy, though, it is best to say a few words about these two fields of inquiry.
A Brief History of Sensible Medicine

I use the term “sensible medicine” to refer to a medical approach in which sensibility and the theory of fibers played a central role in the analysis of the body. This appellation encompasses virtually all eighteenth-century medical theory, given the ubiquity of these physiological basics, but such breadth is necessary for analyzing any concept as widespread as sensibility. Often, historians of medicine break the medical field into a number of sub-disciplines—mechanists, non-mechanists, vitalists, animists, organicists, etc. These serve as useful categories for locating differences within medical theory, but by continually fragmenting the medical or philosophical terrain into ever-smaller sub-groups, many of their shared principles are lost or the boundaries between these groups are too sharply drawn. Keeping a wider focus will highlight the conceptual commonalities of what often have been treated as fragmented groups.

That said, it may be helpful to the reader to provide the basic contours of the eighteenth-century medical scene before launching into a description of the common ground offered by sensibility. There were a number of nuances and sub-genres of eighteenth-century medical thought, but two main strands dominated the intellectual scene: iatromechanism (or simply mechanism) and vitalism. Iatromechanism is the older of these two and can be defined briefly as the belief that bodies are comparable to machines, composed of discernable parts regulated by a complete, uniform, and predictable system of laws. Mechanists often likened the body to a system of pulleys, levers, pistons and bellows and relied on the geometrico-mechanical principles of chemistry and physics to explain how bodies functioned.4 The most famous mechanist was Herman Boerhaave, a professor at the University of Leiden, whose work

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Institutiones Medicae (1708) was read widely throughout Europe. Boerhaavian iatromechanism had three main components: “first, the basic activity of all material bodies is in motion; second, all matter is ultimately corpuscular in composition; and third, final physical causes…lie beyond the purview of the experimental philosopher.” In a strict mechanist schema, anatomical investigation concerned itself with identifying the elemental parts of the body and discerning how those elemental structures worked together to form a fixed set of operations that would sustain life. Mechanism was the most prominent form of medical theory until the period between the late 1730s and 1750s, which ushered in the vitalism of the Montpellier medical school.

Drawing in part on the animist views of Georg-Ernst Stahl (who claimed that there could be no true distinction between living and nonliving matter), this new model of medicine emphasized the need to develop a physics of the living body separate from that which applied to inert matter. The principle figure in the development of Montpellier vitalism was Théophile de Bordeu, who is perhaps most famous today for his fictional role in Diderot’s Rêve de d’Alembert (1769; published 1830). In Bordeu’s works, sensibility appeared as diffuse principle of life, “distributed throughout the body and not exclusively dependent on the presence of nerve endings.” Sensation, for the vitalists, was tied to the action of an indeterminable force that

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6 Generally, historians of medicine have credited the Swiss physiologist Albrecht von Haller, a student of Boerhaave, for single-handedly shifting medical discourse from mechanism to more vitalistic approaches, but given his extreme reliance on Boerhaave’s teachings and his adherence to a model wherein sensibility was dependent on mechanical impulsion, Haller is best viewed as a mid-point figure between the two poles, or as a neo-mechanist.

directed the movements of the body and kept all organs, which themselves had independent “lives,” acting in harmony.

Vitalists and mechanists have often been depicted as diametrically opposed to one another. As the following analysis will show, rather than treating mechanism and vitalism as monolithic perspectives, it is better to view them as two points on a continuum comprised of many shades of mechanico-vitalism, with each physician borrowing more or less from both systems. Despite their many differences, mechanists, vitalists, and all shades in between were able to find some common ground in the discourse of sensibility.

A Brief History of Sensationalist Philosophy

“Sensationalism” refers to the branch of philosophy that relied on the premise that all knowledge comes to humans through their senses. Sensationalists held that individuals are unable to know the truth of external things in themselves and that all experience is mediated through the senses. This experience served as fodder for the development and exercise of one’s mental faculties. In the sensationalist system, the driving force of human behavior was a natural desire for happiness and self-preservation that was maintained through the pursuit of pleasure and flight from pain. Sensationalism attained its most classic formation in the works of Etienne Bonnot de Condillac, but it also informed the writings of the Swiss naturalist Charles Bonnet,

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8 For instance, the division of these two groups undergirds Jessica Riskin’s study of sentimental empiricism. See Jessica Riskin, *Science in the Age of Sensibility: The Sentimental Empiricists of the French Enlightenment* (Chicago: University of Chicago, 2002).

Claude-Adrien Helvétius, Paul-Henri Thiry, Baron d’Holbach, and many other important thinkers in the period.

Just as there were varying theories associated with sensible medicine, there were also divergences in sensationalist philosophies, which ranged widely in degrees of radicalism. Of the four figures listed above, the most conservative was Bonnet, who began his career as an entomologist and was greatly inspired by the natural theology of Noël-Antoine Pluche and René Antoine Ferchault de Réaumur. Bonnet was one of the greatest defenders of the theory of preformation (the idea that God preformed all beings at creation and placed them as preexisting germs in eggs), and he devoted a great deal of writing to defending other Christian doctrines like the immortality of the soul. The sensationalist theories Bonnet espoused in the Essai de psychologie (1754) and the Essai analytique sur les facultés de l’âme (1760) are of a piece with his more explicitly Christian concerns, emphasizing how sensationalist principles direct man toward Christian morality and allow humans to observe the work of the Almighty.\(^\text{10}\)

Condillac, by contrast, did not rely on God as frequently in his works, but he was concerned to avoid alignment with atheistic materialism. Relying heavily on the principles of Locke, Condillac “found his way to an understanding of man which preserves his unique place in the universe—so necessary to a religious outlook—without doing grave violence to the naturalist predilections of the eighteenth century.”\(^\text{11}\) It is best to consider Condillac as espousing a moderate philosophy, able to appeal to both conservative and radical thinkers.


Claude-Adrien Helvétius stands as a significantly more radical sensationalist, not only linking the mental faculties to the senses, but also drawing explicit connections between all aspects of humanity and physical sensibility. Where social currents are arguably present consequences of the philosophies of other sensationalists, Helvétius put them front and center, linking all sociability, self-interest, happiness, and power to the operation of pleasure and pain. Upon the publication of *De l’esprit* in 1758, Helvétius was severely chided for its atheistic, utility-centered, egalitarian claims, and despite his three public retractions, the book was banned by the Sorbonne, condemned by the Catholic Church and the state, and burned by the Paris hangman.¹²

Finally, the case of d’Holbach marks perhaps the most radical iteration of sensationalist principles.¹³ D’Holbach’s *Système de la nature* (1767) stands as the exemplar of atheistic materialism, portraying the universe as matter in motion and claiming that religiously based morality (as opposed to that which is centered on happiness) poses an obstacle to the improvement of society. The book was published under the pseudonym Jean-Baptiste de Mirabaud, a deceased former secretary of the Académie Française, and numerous refutations were leveled against the work almost immediately, including one by Voltaire and one by Frederick the Great. The Catholic Church in France threatened to withdraw financial support of

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¹³ Materialism is often kept separate from sensationalism as a philosophical category despite the fact that many radical materialists (if not most) drew on sensationalism for their foundational tenets. I prefer to treat sensationalism-based materialism as an extension of sensationalist philosophy. For more on this issue, see John C. O’Neal, *The Authority of Experience: Sensationist Theory in the French Enlightenment* (University Park, PA: Pennsylvania State University, 1996), 198.
the crown if the book was not effectively suppressed, and the book was condemned by the Parisian Parlement and publicly burned.

Such differences have inspired a body of scholarship that aims to undo Peter Gay’s declaration that “there were many philosophes in the eighteenth century, but there was only one Enlightenment.”¹⁴ Perhaps most prominent among these is Jonathan Israel, who has argued that Gay’s assessment “needs to be completely reversed” in favor of a model with two competing Enlightenments: the radical Enlightenment and the moderate mainstream Enlightenment.¹⁵ The question of radicalism is certainly valid when one is trying to determine the place of a particular philosopher within the intellectual and social currents of the eighteenth-century, but to classify entire bodies of thought only by these degrees of radicalism is largely to miss the forest for the trees. Many, if not most, radical philosophers had social and intellectual commerce with more conservative ones, and in some cases, they drew from similar ideas.¹⁶ To say, with Israel, that “radical” philosophes like d’Holbach, La Mettrie, and Helvétius “rejected…Lockean empiricism” is to neglect the very foundations of their sensationalist epistemologies.¹⁷ Similarly, while there may have been a conservative reaction against d’Holbach’s famous treatise, a number of thinkers that Israel would classify as moderate still participated in his salon, taking


¹⁷ Israel, *Enlightenment Contested*, 43.
part in many of the same discussions where these ideas got hashed out. As with medicine, a macro-perspective of the period is better formed by paying attention to the commonalities of these strands of philosophical thought before moving into their fragmentation.

**Establishing the Stable Characteristics**

The preceding overview shows the reader how easily, even in succinct form, these various strands of sensibility-related thought could become a confused tangle. The rest of this chapter, by binding these disparate groups and reducing their concepts of sensibility to a core of shared principles, will seek to remedy to the conceptual disorder that has often accompanied the historiography on sensibility. By simplifying the concept in this way, I am not seeking to reduce or obscure its complexity but instead aim to show how such a concept was able to structure the discourse of a number of fields of inquiry while leaving open the possibility for a diversity of questions, resolutions, interpretations, and applications.

The four stable characteristics in question are as follows: 1) Sensibility was understood as a faculty involving a perceptual act; 2) Sensibility was in equal measure physical, mental, and moral (relating to *moeurs*); 3) Sensibility was manipulable; and 4) Sensibility functioned economically. Each of these proved fundamental to the essence of sensibility, binding it into a single concept but also, given the particular nature of the characteristics, permitting sensibility’s influence to range widely. The following description of these characteristics will refer to a similarly stable cast of characters. On the medical side, I refer regularly to Paul-Victor de Sèze, Jean-Claude de La Métherie, Jean-Paul Marat, Antoine Le Camus, Henri Fouquet, and Claude-

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Nicolas Le Cat. I have selected these physicians because of the variation among their usual affiliations. De Sèze was a Montpellier vitalist who wrote quite vehemently against mechanism, while Henri Fouquet, also a Montpellier vitalist, was less aggressive in his anti-mechanist tendencies. Le Cat received his doctorate in Reims and participated actively in Rouen’s intellectual circles, and according to Riskin, he is most closely classed with the mechanists. La Métherie and Le Camus were both members of the generally conservative Parisian medical faculty, and Jean-Paul Marat was, at the time of his *An Essay on the Human Soul* (1772), an autodidact. (He received a degree in 1775 in Edinburgh.) On the philosophical side, I refer most frequently to Condillac, Helvétius, Bonnet, and d’Holbach, given their canonical status and differing levels of radicalism, as described above. By selecting such diverse dramatis personae, I will demonstrate the stability of discourse of sensibility across the usual dividing lines. These men disagreed on a great number of points, but their general concept of sensibility was remarkably similar. Finally, while this chapter focuses on the intersection of philosophical and medical claims, the links between sensationalist philosophers, social reformers, and médecins-philosophes were not simply discursive. Many of these individuals shared strong social ties as well.

1) Sensibility Was a Faculty Involving a Perceptual Act

The physician Victor de Sèze offered what is perhaps the clearest definition of sensibility in *Recherches phisiologiques et philosophiques sur la sensibilité ou la vie animale* (1786):

“Sensibility, considered not as a principle, but as a faculty of animal fibers, is nothing more than the power to perceive the impressions of stimulating matter; the feeling [sentiment] is perception

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De Sèze’s succinct but semantically dense statement works as an excellent starting point for unpacking the nuances of sensibility. For simplicity’s sake, though, it’s best to treat the definition’s three main components separately: 1) sensibility as a faculty; 2) the place of animal fibers; and 3) feeling as perception.

De Sèze declared that sensibility should be considered as a faculty rather than a principle, and similarly, the Encyclopédie definition of sens emphasized its status as a faculty: “Sens is a faculty of the soul, by which it perceives exterior objects” or “a faculty by which the soul perceives ideas or images of objects.” Henri Fouquet, who wrote the Encyclopédie entry “Sensibilité, sentiment,” also referred to sensibility as a faculty (although not to the exclusion of it being called as “principle” as did de Sèze), deeming it “…the faculty of feeling, the sensitive principle, or the sentiment itself of parts, the base and conserving agent of life, animality par excellence.” What would it mean for sensibility to be a faculty? According to the 1694 and 1762 definitions in the Dictionnaires de l’Académie française, “faculté” meant, “power, natural virtue,” “the talent of facility that one has to do something,” or “the power or right to do a thing.” Taken together, these definitions suggest that a faculty entailed a capacity for particular

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22 Henri Fouquet, “Sensibilité, sentiment,” 15:39. La Métherie also refers to sensibility as “the feeling principle” (Jean-Claude de La Métherie, Vues physiologiques sur l’organisation animale et végétale (Amsterdam and Paris: P. F. Didot, 1780), 118).

action; it was an aptitude or ability rather than a characteristic or law. This definition stands in stark contrast with that of “principle,” which denoted something fundamental and elementary. A principle was a truth grounded in nature, simple and unalterable, and dictionaries stressed that a principle was a “first cause,” “that which is conceived as first in the composition of natural things,” and “the first and most evident truths that can be known by reason.” Sensibility, with its status as a faculty, was not a known quantity or a prime mover; it was a capacity.

Even though sensibility could be understood as a capacity for action, it was not always active. In fact, this is one of the most perplexing aspects of sensibility: it was simultaneously active and passive. In the eloquent phrasing of Henry Martyn Lloyd, “sensibility was the precondition of the ability to sense passively…[it] was [also] a responsive power and as such, it extended well beyond the five passive senses.” In other words, sensibility was both the capacity to receive sensations and the power to act upon them. (This included both conscious action and autonomic responses that operated independently of reflection.) Certain authors stressed sensibility’s passive elements, while others stressed its active operations, but for most writers, sensibility operated at the dialectical interstices of these two modes. According to Lloyd, “This union of what otherwise might be thought of as separate categories—passive reception of sensation and active response—was fundamental to the discourse of sensibility as it was


influenced by vital medicine.” Sensibility was a capacity that enabled perceptive action, but it did so only after receiving the impressions of “stimulating matter.” The simultaneity of these two modes gave sensibility a great deal of discursive power, since it incorporated the entire process of perception within a single property.

The second element of de Sèze’s definition was the claim that sensibility was a faculty of animal fibers. In sensible medicine, one of the most important physiological components was the fiber, which was the basic unit of bodily matter. Fibers were hollow tubes that filled with fluids and vibrated upon sensory stimulation. These fibers interlaced with one another, forming sensory organs, muscle tissue, nerves, and vessels, and because of their tight interrelation, physicians argued that a change in one fiber necessarily altered the composition, form, or movement of others. A sensation, giving rise to an alteration of the fibers, would create a chain reaction through all neighboring fibers, ultimately transferring the stimulus to the brain, and more specifically, to the sensorium commune, the place in the brain where the nerves were thought to originate in a fibrous pulp and where, according to some anatomists, animal spirits pooled.


28 This vibrational model of fibers coexisted with another model, present in Le Cat’s works, in which sensibility derived from the filling of fibers with animal fluid, which caused them to expand and contract. In this model, fibers still oscillated and moved, but the catalyst of sensibility was attributable to the fluid inside the nerve fiber rather than the fiber itself. While the composition of fibers and fluids were a bit different in these two systems, for all intents and purposes, they functioned the same way. A stimulus caused the fiber to either move or to fill with fluid, which transferred the process to surrounding fibers and up to the brain. For another example of the animal fluid model, see La Métherie, 113-114. See also de Sèze’s discussion of the differences between these two groups (43).
Fig. 1. The basic form of the fiber, both in its empty (F.2.) and swollen (F.3.) state. Claude-Nicolas Le Cat, *Traité des sensations et des passions en générale et des sens en particulier* (Paris: Vallat-la-Chapelle, 1767).

Fig. 2. This shows more complex arrangements of fibers in different states of fullness. Le Cat used these images to emphasize how the volume of liquid or the state of swolleness of one fiber affected the shape, volume, tenseness, and oscillations of other fibers. Claude-Nicolas Le Cat, *Traité des sensations et des passions en générale et des sens en particulier* (Paris: Vallat-la-Chapelle, 1767).
Fibers had a “spring” or “elastic virtue” proper to their functioning. As fibers filled with fluids, they would swell and vibrate, giving play to the organic spring and transferring oscillations to neighboring fibers, which also filled with fluids. The springiness and rate of vibration of a person’s fibers were absolutely essential to determining her receptivity to stimuli. This meant that the tenseness and strength of the fibers were central to the overall health of the organism. One wanted fibers that were supple, but not overly malleable (which could cause fits of hysteria) and fibers that were strong but not hard (which could cause listlessness or loss of memory). Healthy sensory fibers were necessary to communicate vivid, clear impressions to the mind, and the mind furnished the proper interpretive and perceptual functions to experience, compare, and refine sensations. In the words of Bonnet, “Ideas are attached to the play of certain fibers.”

Every human’s fibers were distinct, which meant that the same stimulus would have different effects on different individuals. A person with over-exercised fibers would be much more sensitive to stimuli than someone with rigid ones. Thus, the state of a fiber not only changed as a result of a stimulus, but it could also alter the effect of the stimulus itself. As will be covered in more detail later, physicians applied a number of alimentary, topical, and behavioral remedies to keep the fibers in an equilibrial state. Sensibility functioned as an intangible power, but it inhere in the particular, localizable unit of the fiber.

Finally, we move to de Sèze’s claim that “feeling is perception itself.” I have described the physiology of sensation, but in order to get beyond sensation and to move to the realm of perception, we must further investigate the mechanisms by which this physiology connected with the creation of knowledge. To return to the *Encyclopédie* definition, at its most basic, *sens* was

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29 Bonnet, *Essai analytique*, xxiv.
the “power to perceive, or a power to receive ideas,” which occurred either “by the means of
some action or impression made on certain parts of the body that one calls the sensory organs,
which communicate this impression to the brain,” or it was “occasioned by some action of the
soul itself.” This definition picks up on a crucial aspect of the sensible system that is not readily
clear to modern observers: the senses were not only relegated to the action of sensory organs.
They also operated by the action of the soul itself, which in plainer terms, meant that there were
internal senses as well as external ones.

In the eighteenth century, the senses were often divided into two types: the external
senses (hearing, sight, taste, touch, and smell), and the internal senses (imagination, memory,
attention, etc.), which we would call mental faculties today. Extending the concept of “the
senses” to encompass all forms of perception is crucial to understanding the relationship between
sensation and perception, and thus to understanding sensibility itself. A sensory stimulus had a
direct effect on fibers and sensory organs, but it also had a direct effect on the mind and
processes of perception. For eighteenth-century theorists, the alteration of fibers effected change
throughout the entire sensory system, internal and external. To apply hard-and-fast divisions to
the mental and the physical is to misunderstand the way in which thinkers understood the
sensorial. Both the external and internal counted as “senses,” and all were subject to the faculty
of sensibility and to the perception that it occasioned in the soul.

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31 This concept of internal sense is different from the nineteenth-century definition popularized by Pierre-Jean-George Cabanis. Cabanis attributed equal importance to external impressions and internal impressions deriving from bodily organization (brain size, for instance) and originating in the viscera. In this view, the mind “was not tranquilly, uniformly prepared to receive sense-data but instead was captive to the body and its diverse states, which in turn were governed by a constant interplay between interior and exterior environments” (Williams, 107; Ibid., 88).
In a sensible system, the data gathered by the sensory organs was necessary to construct thoughts and sentiments, but the sensory organs did not enable sensibility on their own. Properly speaking, the external senses furnished the raw data that sensibility, as the mediator between the internal and external senses, perceived. Sensibility referred not to the direct stimulation of the sensory organs but to a form of receptivity by which we are “made present to ourselves and which establishes rapports between us and objects external to us.” Thus, it is best to think of sensibility not as a property solely derived from the functioning of the external senses, but as a faculty of perception, tied in equal measure to physiological structures like fibers and nerves and the mental faculties like reason and imagination. Sensibility was a receptive faculty, but that does not mean that it was purely passive, acted upon by some external force in a pre-determined manner. In the discourse of sensibility, external stimuli contained no fixed “truth” by which an individual was necessarily acted upon in a certain manner. Instead, sensibility negotiated between the external stimulus and the final perception registered by the mind. Its purpose was to facilitate perception and to act as an interpreter between the external world and an individual’s body and mind.

2) Sensibility Linked the Physical, Mental, and Moral

From the foregoing section, one can see that sensibility, as the link between sensation and idea, was in equal measure physical and mental. The fibers composing the sensory organs, when stirred by an external stimulus, communicated impressions to the brain, and the internal senses, or mental faculties, took these physical movements as fodder for their own impressions. In the

words of De Sèze, “The faculty of feeling pertains, without doubt, to the soul, but it only has exercise through the mediation of the material organs whose assembly forms our bodies.” Sensibility, in this light, was the means through which the mind and body had reciprocal rapport. In a sensible system, the body and mind were linked and influenced each other integrally, sharing a harmonious relationship.

Another crucial component of the discourse of sensibility, though, is that it furnished, not only the link between the body and the mind but also between the physical and the moral. To this point, I have focused on the mind and body as a dichotomy in order to illustrate sensibility’s place at the intersection of sensible medicine and sensationalist philosophy, but the soul also featured prominently in eighteenth-century ontology. In discursive terms, the line between the mind and soul was often fuzzy, but often, descriptions of the mind referred to the processes of reason, judgment, imagination, memory, and understanding, where descriptions of the soul focused on sentiments, passions, and morals. I will not unravel the Gordian knot of mind, body, and soul here, but for this book’s purposes, it is significant to note that sensibility affected moral processes as well as mental ones. In the late eighteenth-century and the nineteenth century, the rapports between various ontological realms were usually expressed through the dichotomy between _le physique_ and _le moral_, and it is this dyad, formulated by revolutionary and post-revolutionary physicians, that is more commonly used to discuss the relations between separate

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33 De Sèze, _Recherches phisiologiques et philosophiques_, 90.

domains of experience.\textsuperscript{35} Yet, as Elizabeth Williams notes, for the majority of the eighteenth century, it was more appropriate to conceive of such rapports as a “triad scheme of the physical, the mental, and the passionnal.”\textsuperscript{36} I prefer to call these rapports a triad of “the physical, mental, and moral,” for several reasons. The term “moral” carries a less potent ethical connotation in French than in English, and in the eighteenth century, the adjective “moral,” referred not to a rational moral philosophy or to abstract moral dictates of right and wrong but instead to conventions and manners [moeurs] that carried a positive social sanction.\textsuperscript{37} The category of “moral” most commonly referred to an individual’s temperament, passions, and sociability, therefore encompassing the passionnal while also extending to behavior, practice, and social context.

In the sensible system, these moral characteristics and inclinations could all be traced back to sensations of pleasure and pain, which theorists in turn equated to the elemental emotions of love and hate.\textsuperscript{38} One’s emotions, tendencies, and general temperamental disposition were directly implicated in the movement of the body and soul. To be “moved,” was to have an affective, physical, and intellectual response, all at the same time. According to Marat, the impressions received by sensibility could be split into two groups: sensations, which derived from material objects, and sentiments, which derived from moral ones.\textsuperscript{39} Many of his

\begin{itemize}
\item \textsuperscript{35} Williams, \textit{The Physical and the Moral}, 8.
\item \textsuperscript{36} Ibid.
\item \textsuperscript{37} \textit{Dictionnaire de l’Académie française}, 1\textsuperscript{st} ed. and 4\textsuperscript{th} ed. (University of Chicago: ARTFL Dictionnaires d’autrefois Project), s.v. “moral(e)” http://artfl-project.uchicago.edu/content/dictionnaires-dautrefois. (accessed August 13, 2011).
\item \textsuperscript{38} See below for more on pleasure, pain, love, and hate.
\item \textsuperscript{39} Marat, \textit{An Essay on the Human Soul}, 15-16.
\end{itemize}
compatriots viewed sensation as a single category, but even those like Marat, who chose to classify the effects of stimulation, recognized the moral implications of sensibility. The moral, joined to the mind and body, served as a third thread in the sensible tangle; the three were intimately interconnected, sharing in a system of reciprocal causes and effects. The moral, the physical, and the mental were all different facets of the same perceptional process, and adjustments to sensibility would affect them in equal measure.40

In a system in which the elements were so intimately connected, the alteration of a single element would necessarily alter the others. A change in an individual’s physical composition would hold direct bearing on her temperament, intellect, sociability, and skill. For instance, the consumption of chocolate could augment the movement of blood in the intestines and furnish the brain with a “great quantity of elegant and active spirits [esprits, as in animal spirits],” which in turn “augments the force of the imagination, fortifies the memory and gives more activity to the passions.”41 Conversely, any change in mental or emotional activity could result in bodily changes. According to Tissot, “an overly prolonged application to study destroys the body by dissipating the animal spirits that are necessary to its repair.”42 Sensibility, as the foundation of psychology, epistemology, and physiology, undergirded every aspect of the being, guiding and determining each thought, behavior, and feeling.

The discourse of sensibility, linking all aspects of the being, furnished a powerful tool for thinking about how to regulate bodies, minds, and temperaments in one fell swoop. Many previous forms of social management aimed to provide food to nourish bodies, education to

40 De Sèze, Recherches phisiologiques et philosophiques, 153-4.
sharpen minds, and work to prevent idle hands, but once sensibility furnished the bridge between multiple ontological domains, the prospect of new types of reform that targeted the whole being emerged. Through the alteration, management, or refinement of a person’s sensibility, that person could be rendered well-tempered, clear-headed, and healthy.

3) Sensibility Was Manipulable

The interconnectedness of mind, body, and morality offered the hope of the easy manipulation of sensibility. A change in one facet would easily alter the others, and thus, all the ills of the mind and morals could be healed through bodily alteration. The most common catalysts of such alteration were the non-naturals, a holdover from Galenic medicine that still had significant sway in the eighteenth century. Simply put, non-naturals were “that which [do] not make up our nature or being, but from which the animal economy experiences great effects, great changes, and great alterations.”43 Galen enumerated six non-naturals that could occasion such effects: 1) air and climate, 2) food and drink, 3) motion and rest, 4) sleep and waking, 5) bodily retentions and evacuations, and 6) the passions of the soul. Additionally, the associated physical variables of age sex, and temperament had the power to affect the bodily system. The category of temperament requires a bit more elucidation than the other variables, given its inherent complexity. Temperament was based on the ancients’ doctrine of the humors, in which one’s habits, tendencies, and character related to the proportion of the four bodily humors–blood,

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phlegm, yellow bile, and black bile—which in turn corresponded to a set of elements (air, water, fire, and earth, respectively) and primary qualities (hot, dry, cold, and wet). According to Galenic medicine, there were five basic temperaments—sanguine (warm and moist), phlegmatic (cold and moist), choleric (warm and dry), and melancholic (cold and dry), and an ideal state in which one had all humors in balance. By the eighteenth-century though, physicians relied on a system that incorporated a number of composite temperaments, such that one could be, for instance, phlegmatic-melancholic-bilious.44

All of these variables had direct influence over one’s fibers, and consequently, on one’s sensible makeup. For instance, a sanguine temperament led to spongy and flexible fibers where a bilious temperament made them dry and elastic. Children had very flexible fibers, capable of receiving vivid impressions, where tended to have rigid fibers. In the sensible system, the way that a person experienced stimuli depended integrally on a variety of factors: whether the fibers were supple or hard, whether the perceiver had a certain type of humor that made her more predisposed to heat, whether she had eaten “hot” foods that day, whether she lived in the mountains or by the sea, whether she was young or old, etc. Management of the non-naturals was viewed as the primary means of keeping the body healthy or restoring it to health, and the relationship between the non-naturals and one’s character was intimately causal.45

44 For a thorough description of the temperaments and their accompanying physical and moral characteristics, see François Quesnay, *Essai phisique sur l’oeconomie animale* (Paris: Guillaume Cavelier, 1736), 252-296.

perhaps most famously, Montesquieu—treated the non-naturals as a source of different political, physical, and social constitutions.

Obviously, non-naturals had been an influential component of medical knowledge for some time, but it wasn’t until the rise of the discourse of sensibility that they became infinitely powerful. Despite the fact that physicians had, for centuries, acknowledged the connection between the temperament and the passions, temperaments did “not yet take on an almost separate life as psychological expressions.”

Sensibility furnished a link between ontological domains, ensuring that physiological alteration took on a psychological cast. In the eighteenth century, non-naturals became, not only the key to health, but the key to mental and emotional well-being. Doctors readily acknowledged this new power. According to the physician Antoine Le Camus, “[past doctors] discovered for us the most suitable means that Medicine could employ for calming choler, softening sorrows, preventing fright, and stifling jealousy,” but, “this is not the goal that we propose in our work: our intention is to make the passions serve the perfection of the mind, to elevate it through them to greatness, to the sublime, to pathos.” Once sensibility made the body the gateway to thought, temperament, morals, and genius, the non-naturals moved beyond their historical status as medicinal palliatives to become instruments for improvement.

Sensible manipulation situated reform at the level of the individual body, but its proponents trusted that individual alterations had the power to significantly alter society at large. In the eighteenth-century the word *corps* referred to social bodies as well as physical ones, and metaphors deriving from one context were readily applied to the other. For instance, in the

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preface to the *Traité des sensations*, Le Cat argued, “Liquors in the animate body are like the people, solids are the governors, and the fluid is in some degree the master and sovereign. All these powers, although subordinated, are in reciprocal dependence; they form a type of political body.”48 The body served as a political microcosm, operating according to the same principles of power and balance as grand-scale political institutions.

This linkage of the physical and political bodies was not simply a rhetorical device; philosophers and physicians trusted that alterations to the individual physical body had direct implications for the collective political body. To reinforce his claim that “all particular interests form a common interest,” Helvétius traced the lineage of justice back to a sensationalist origin:

> I easily discovered the source of human virtues: I see that, without sensibility to physical pleasure and pain, men, without desires, without passions…could not know personal interest at all; that without personal interest, they could not assemble in society, could not make conventions between themselves, could not have general interest and consequently no just or unjust actions; and that as such, physical sensibility and personal interest have been the authors of all justice.49

In this light, all public goods—including justice, collective interest, social happiness, and public utility, which Helvétius deemed “the principle of all human virtues and the foundation of all legislation”—all derived from the individualistic faculty of sensibility.50 Sensibility, as the ultimate arbiter of social good had direct political and social power. At the end of his lengthy analysis of “mental medicine,” Le Camus concluded, “There is thus in our object a real interest for the Sciences, for each man in particular, and for the State.”51 Such quotations make clear that

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50 Ibid., 80.

reformers saw great potential in sensibility as the key to social and political change, given its power to effectively link the individual and the collective. Despite the fact that it resided in individuals, sensibility must be seen as an inherently social concept, given that it affected and individual’s social traits and offered the possibility of improving society at large through their manipulation. Thus, the eighteenth-century body became the bearer of potential social goods and effectively linked the particular with the collective, but it was only through the bridging capacity of sensibility that the body gained its discursive power.

4) Sensibility Functioned Economically

Given that the discourse of sensibility focused so keenly on the many varieties of experience, physical conformations, and mental capabilities, it hardly seems surprising the theorists who wrote on sensibility paid a great deal of attention to how these elements interrelated. These interrelations are best viewed as economies, a term which I use to denote the organization, internal constitution, and apportionment of functions within a complex unity. We more commonly associate the term “economy” with the wealth and resources of a territory, but in the eighteenth century, the term had a much broader application, pertaining most often to natural philosophical contexts. These systems involved the management of resources, and as with Linnaeus’ concept of the “natural economy,” these resources were treated as if they were purposefully designed to fulfill a particular function within a structured system. “Economy,”

52 For more on the relation between the animal economy and political economy, see Chapter Four.

53 “Economy” originally comes from the Greek oikonomia, meaning “household management.” According to Margaret Schabas and Neil De Marchi, “the term oeconomy was in common use from at least the sixteenth century and applied to a variety of contexts. By the seventeenth century it had been extended to all of God’s domain, with God as the supreme manager of nature’s larder. The term oeconomy of nature was most likely coined by
then, served as the operative word for the functioning or management of bodies on both a micro-scale (as with the animal economy) and a macro one (as with political economy). Sensibility encompassed four primary economies, all of which were prevalent in both sensationalist philosophy and sensible medicine: the animal economy, the passional economy, the economy of attention, and the sensory economy. Sensibility relied on all four, but they operated according to different mechanisms.

“Animal economy” was a term frequently invoked throughout the eighteenth century to refer to the interaction of fluids, solids, and other parts of the bodily system. This concept existed long before the 1740s, but with the rise of post-1740s sensible medicine, the manipulability of the bodily economy and its effect on the mind and morals came to the fore. The maintenance of equilibrium between the humoral, elemental, and solid parts of the being were essential to the proper functioning of this economy. Terms like “just proportion,” “exact rapport in the tone of parts,” “proportion of elements,” “harmony of the living body,” and “just equilibrium” occur time and time again in sensible texts, and authors are careful to emphasize that “health depends on the equilibrium between these powers [liquors, solids, and fluids].”

The passional economy relied on the sentiments of pleasure and pain, two elements that thinkers considered foundational to sensibility. Nature provided these sentiments as preservational tools, and in the words of Condillac, the purpose of the senses are “to warn us by pleasure of that which we should seek out, and by pain that which we should flee.”


54 For examples of the above terms, see La Métherie, Vues phisiologiques et philosophiques, 47, 58; De Sèze, Recherches physiologiques, 70; d’Holbach, The System of Nature, 20; Le Cat, Traité des sensations, xxiv.
and pain functioned as regulatory devices, and as with all elements of sensibility, they operated as both physical and mental sensations, having direct effects on sensory fibers and the soul. According to Condillac, pleasure and pain “occupy our capacity to feel, producing the attention from which memory and judgment are formed,” “give birth to [man’s] ideas, desires, habits, and talents of all kind,” and serve as the elements from which all sensations and passions are formed.  

Through the natural desire to acquire pleasure and avoid pain, man’s central goals became those established by nature: the pursuit of happiness and self-preservation. One should not take this to mean that humans, as pleasure-driven beings, were naturally inclined toward libertinism. Pleasure and pain had to be moderated in order to keep the economy balanced. A person only sought pleasure until it threatened her drive for self-preservation, when it then would turn to pain. According to d’Holbach, “Pleasure; the more lively it is, the more fugitive, because man’s senses are only susceptible of a certain quantum of motion. When pleasure exceeds this given quantity, it is changed into anguish.”

As radical as they may have been, d’Holbach, Hélvetius, and other pre-revolutionary sensationalist philosophers resisted the linkage between an epistemology based in pleasure and pain and the unchecked hedonism that featured so prominently in the works of the Marquis de Sade. The ever-changing economy of pleasure and pain needed to be carefully balanced and regulated to obtain the optimum results. “The same elements, which under certain circumstances serve to nourish, to strengthen, to maintain the animal,” d’Holbach claimed, “become, under

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56 Ibid., 20, 52.

others, the principles of his weakness, the instruments of his dissolution—of his death…whenever they are not in that just proportion which renders them proper to maintain his existence.” The passional economy was a holistic system requiring the careful management of interdependent parts. Pleasure and pain, in a sensationalist schema, gave birth to all a human’s emotions, including the two foundational passions of love and hate. Just as pain and pleasure, the foundational physical elements, combined to form any number of resulting sensations, love and hate combined to form any number of resulting passions. These foundational elements were not simply analogous to one another; they were inextricably bound by a mutual and constant rapport, such that any experience of pleasure would have correspondent passional effects related to love, and vice versa. In other words, “[Nature] attached the physical effect that accompanies pleasure to all the sentiments that pertain to love and the effect of pain to all those that tend to hate. Thus in love, the epigastric center expands; in hate, it contracts.”

It was through the fundamental passions of love and hate, derived from pleasure and pain, that sensibility gained a great deal of its macro-scale importance. Not only did these sentiments contribute to the preservation of the being and the continuation of the species, but they also affected in great measure the interaction of the individual with other human beings. Projected outwardly, the passions affected the day-to-day relationships between individuals and guided the way in which humans formed societies more generally. According to Helvétius, a functioning sense of justice required the knowledge that “physical sensibility has produced the love of

58 Ibid., 19-20.

59 De Sèze, Recherches phisiologiques et philosophiques, 173-4. For another example of the linkage between pleasure and pain and love and hate, see La Métherie, Vues physiologiques, 339.
pleasure and the hatred of pain...[that has] subsequently disposed and made blossom in all hearts the germ of self-love, whose development gives birth to the passions, from which derive all our vices and virtues." Sensibility, as the source of the passions, stood as a cornerstone for a social contract, binding humans together in just commerce. It was from the germ of self-love that social commerce, morality, and the relation of the self to other selves derived. Thomas Kavanagh has rightly argued that the Enlightenment had “faith in pleasure as a universal currency, whose exchange could both define the self and bind together society.” Such a belief placed sensation at the core of social and political constitution, further binding the individual body with the collective.

The final consideration lurking beneath this discussion of the passional economy relates to the connection of pleasure and aesthetics. How did the individualized sensation of pleasure, tied to the specificities of the particular body, connect to form broader, more universalized ideas about the constitution of beauty or pleasurable experience? To what extent could beauty be universal, and to what extent did it reside in individual perception? These questions will be treated in more depth in the following chapter, but it is important to recognize the deep relationship between sensibility’s passional economy and new aesthetic theories.

The third economy, the economy of attention, revolved around the strength of impressions, the clarity of reflection and experience, and more generally, the relationship between the mental faculties and the organs of sensation. Condillac defined attention as the “operation by which the consciousness in response to certain perceptions becomes so lively that

60 Helvétius, *De l’esprit*, 238.

they seem to be the only ones of which we take notice.”

The faculty of attention entailed that certain perceptions, attractive because they are relevant to our disposition, passions, temperament, and condition of life, command a greater part of consciousness so that the experience lingers and inspires a more intense affective response. Bonnet seconded this definition, arguing that attention was simply the “reaction of the soul to the fibers which an object has put into motion,” and any stimulus that commanded more attention was one whose movements the soul desired “to conserve, fortify, or prolong.”

According to Condillac, two principles determined the degree of action that a stimulus inspired in the mental faculties: the vivacity of the stimulus and the amount of pleasure or pain that accompanied it. The greatest part of attention would fix on the perception that occasioned the most vivacity, pleasure, or pain, but attention could also be divided among different types of perceptions, namely, sensation, memory, and imagination. Perceptions were always in competition with one another, and as attention to one perception increased, the attention paid to others decreased. Condillac explained, “Our capacity to feel is limited; we will be completely insensible to sensory impressions every time that our imagination applies itself entirely to an object.”

Attention was not only divisible but also operated in a zero sum fashion. Attention

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63 In the *Essai sur l’origine des connaissances humaines*, Condillac claimed that attention commands the entire consciousness, but it was much more common to define it as he did in the *Traité des sensations*, where attention was partitive rather than binary. Condillac himself foreshadowed this partitive concept in the *Essai* in his claim that “when giving attention to an object, it is not likely that all the fibers of the brain are agitated to the same degree without a great many others remaining that are capable of receiving a different impression” (22). However, he still referred to it as a faculty that commanded the entire consciousness throughout the rest of the text.

64 Bonnet, *Essai analytique*, 38.

65 Condillac, *Traité des sensations*, 79.
bound an individual’s faculties to a limited amount of possible feeling, so any attempt to manage sensibility required vigilant attention to attention itself.\textsuperscript{66}

The final economy, the sensory economy, involved the relationship between the senses. Theorists almost universally treated the relationship between the senses as an inverse one, by which the sharpening of one would lead to the dullness of another.\textsuperscript{67} Sensibility’s social applications often revolved around the manipulation of this inverse relationship. One of the most striking illustrations of the sensory economy occurred in the writings of Jean-Bernard Mérian (1723-1807). Mérian wrote eight \textit{mémoires} on the Molyneux problem, a well-known philosophical conundrum that questioned whether a man blind from birth, were his sight suddenly restored, would be able to distinguish by sight the various shapes he had known previously by touch. The first seven \textit{mémoires} were devoted primarily to summing up the arguments of other philosophers who had treated the problem—Berkeley, Condillac, and Diderot, to name a few. Mérian occasionally inserted his own commentary, but for the most part, the \textit{mémoires} took the form of an \textit{histoire raisonnée} rather than a philosophical treatise. The eighth \textit{mémoire}, in which Mérian treated “the means of making new discoveries,” dealt more directly with Mérian’s personal perspective.\textsuperscript{68} Written in 1780 and read before the Prussian Academy in 1782, this piece proposed “to take children from the cradle and to raise them in profound darkness until the age of reason.”\textsuperscript{69} Mérian argued that overseers could develop the childrens’ knowledge in the manner that they saw fit, programmatically varying experiences and

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\textsuperscript{66} Jean-Paul Marat made the same argument in \textit{Essay on the Human Soul} (1772), 53; 91.
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\textsuperscript{67} For example, see La Métherie, \textit{Vues physiologiques}, 321.
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\textsuperscript{69} Ibid., 180.
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forming the senses one by one in an environment in which eyesight could not distract the
children.\(^\text{70}\)

The sensory economy played a central role in Mérian’s plan. The experiment depended
on the idea that, “disencumbered of sight, which causes the most distractions, and delivered to
itself, [the students’] touch would acquire the most exquisite finesse. Their adroit hands would
become capable of handling slender objects and of distinguishing the subtlest nuances: their
fingers would be types of microscopes.”\(^\text{71}\) Mérian trusted that his proposal would yield the ideal
school for “forming mechanics, sculptors, artists of all kinds,” as well as “physicists, naturalists,
geometers of the first order, and above all philosophers exempt from the thousand prejudices that
we suckle from our birth.”\(^\text{72}\) Mérian hoped to overcome the confusion of the senses, often the
fault of an over-divided attention, by limiting the objects presented to the mind and the body. For
Mérian, complete deprivation of one physical sense would grant greater clarity, not only to the
mental faculties, but also to the other senses.

Just because the alteration of one sense affected the strength or weakness of others, this
did not mean that the senses were homogenous. Many eighteenth-century authors attributed
different types of fibers to different sensations and argued these could not be mixed.\(^\text{73}\) Thus, the
sensory economy was, in fact, quite closely linked to the economy of attention; sensory
redirection relied more on exercise, need, and the attention paid to impressions than on

\(^{70}\) Ibid.; Ibid., 184.

\(^{71}\) Ibid., 185-6.

\(^{72}\) Ibid., 186.

\(^{73}\) For example, see Ibid., 77; Antoine Le Camus, \textit{Médecine de l’esprit}, (Paris: Chez Ganeau, 1753), 2:76. For more on this issue, see Chapter Two.
physiological alteration. Mérian acknowledged a key objection to his proposal: even if the students were kept in total darkness, they would still be able to develop visual impressions since they would become accustomed to the shadows like nocturnal animals. In response, he suggested that a doctor construct a special blindfold for the children so their eyes would be kept out of commission.\textsuperscript{74} This implied that the physiological structure of the eye itself would not altered by the experiment, but that the sensible act itself was the target of control. For the most part, eighteenth-century projects targeting the sensory economy actually focused on managing sensibility, despite their emphasis on the senses. The careful, supervised regulation of the sensory economy could produce altered human capacities, but regulation centered more on the management of the sensible system than on improving the sensory organs themselves.

As this case shows, the manipulation of the sensory economy was thought to have some beneficial social applications. But the nature of the inverse relationship also made sensory control more difficult. For instance, the inverse operation of the sensory economy meant that keener senses were not always considered a boon. The improvement of one sense would necessarily entail the neglect of others. In some cases, as with Mérian, this was considered acceptable if the neglect was properly managed. But in other cases, upsetting the sensory balance would prove detrimental to the development of crucial capacities. It is important to remember here that the internal senses counted in this inverse schema as well, and if one organ were to yield overly strong sensations, this could prohibit the development of the mental faculties. Antoine Le Camus argued that the overdevelopment of the external senses would limit the internal ones, and he warned that rationality had to be placed in this economic balancing game

\textsuperscript{74} Mérian, \textit{Mémoires sur le problème de Molyneux}, 182-3.
alongside the other sensory capacities.\(^75\) An over-developed physical sensibility, necessary to the conservation of non-rational beings, could prove inimical to the perfection of the human being by dulling his/her rational capacities.

Additionally, heightened sensory capacity could, if taken to the extreme, incapacitate the individual, making one overly sensitive. Quoting Alexander Pope’s *Essay on Man*, Le Camus inquired, “What would be the use of a more delicate touch, if sensible and trembling from everything, pains and agonies are introduced through every pore? From a keener sense of smell, if the volatile parts of a rose made us die of aromatic pains…?\(^76\) As with the other economies, the sensory economy sought an ideal state of equilibrium, wherein the keenness of the senses could be maximized without erring on the side of overstimulation. If this careful balance were upset, the individual was liable to a number of pathological conditions: oversensitivity, hysteria, violence, weakness, and madness to name just a few. Sensibility inspired a great deal of optimism, and it held the promise of perfectibility, bringing reformers the hope that progress was well within their grasp. But each alteration of the sensible system held just as much danger as promise. Anne Vila has accordingly stressed that sensibility contained the seeds of both enlightenment and pathology, pointing to texts like those of Samuel-Auguste Tissot to show that reformers were quite wary of sensibility’s power.\(^77\) Sensibility’s holistic, economic status meant that the reformers who manipulated it had to be rather cautious, lest they put society at peril.

By treating sensibility as a faculty that operated economically, the relationships between various ontological domains become clearer, as do the specific mechanisms by which eighteenth-

\(^{75}\) Le Camus, *Médecine de l’esprit*, 2:75.

\(^{76}\) Ibid., 2:74.

century thinkers hoped to manipulate the physical, mental, and moral aspects of the individual. With reference to these four economies, the process of sensory perception remains complex, but it becomes easier to recognize specific forms of interrelation and to understand the links between such diverse domains as the passions, self-preservational instincts, the health of organs, the acuity of mental faculties, and the connection between the individual body and collective goods like justice and altruism.

**Conclusion**

The four characteristics outlined above provide a synthesized framework for scholarship on sensibility, offering a definition stable enough to effectively identify moments in which texts, writers, systems, and institutions participated in the discourse of sensibility, while still permitting a conceptual breadth that allows for the analysis of the discourse in new contexts and new areas of study. Sensibility can be seen as permeating a diversity of fields, outlooks, and claims, all while retaining boundaries that were solid enough to make it a cohesive, useful language for debates on the human body, mind, and social capacity. Sensibility, at its most crucial moments, offered a means of connecting different ontological domains, making it possible for man to become a subject of inquiry, not only as an animal, but also as a rational, political, and social animal.

In an era devoted to progress, or at least to discussions about how best to keep the perceived darkness of earlier historical eras at bay, sensibility provided a language through which thinkers could express a multitude of viewpoints and perspectives relevant for broad imaginings of the ideal form of society, government, individuality, and intellectual commerce. Disparate topics of analysis and levels of management became united under the rubric of a
manipulable physical and mental system. Sensibility, as a concept with a significant material basis, provided a means of connecting the tangible with the intangible, making it possible to systematically approach domains that had previously been beyond broad-scale reform, like rationality, sociability, and genius. The discourse of sensibility permitted the development of specific, and often, programmatic solutions to social problems by offering a language sufficient to the connection of the internal and external, and more broadly the individual and the collective.

While it is undeniable that affect or sensitivity formed a significant part of sensibility’s cultural cachet, when one considers sensibility as a manipulable faculty enabling the connection of various ontological domains, affective response no longer forms the major thrust of the concept. Instead, sensibility can be seen an agent of social change, as a language made available to a number of thinkers with varying scientific, humanistic, social, and literary views, and as the rest of this book will show, the rise of this discourse enabled, at least in part, the mid-to-late-eighteenth-century proliferation of social projects. Broadly speaking, ideals of perfectibility and social progress found new license in the manipulability of mind, body, and morals offered by the discourse of sensibility.
CHAPTER TWO

Simple Pleasures: The Ocular Harpsichord and the Stabilization of the Discourse of Sensibility

Louis-Bertrand Castel (1688-1757) stirred the scientific and philosophical waters in 1725, when he published a letter in the Mercure de France revealing his theory that it was possible to harness what he believed to be natural correspondences in light and sound, binding them together into a single instrument. He claimed that this instrument, the ocular harpsichord, would “render sound visible” and “make the eyes confidants to all the pleasures that Music gives the ears.”¹ “Out of frivolity,” Castel bragged, “this harpsichord contributes to making us more enlightened and better.”² Apparently, Castel wasn’t the only one whose imagination was fixed by the concept of color music, nor was he the only one who saw its philosophical, aesthetic, and scientific potential. For the next half-century, this invention occupied the popular imagination and appeared in poems, literature, and the works of many of the great lumières.

With the widespread prevalence of French sensationalist philosophy and sensible medicine after the 1740s, the discourse of sensibility adhered to a set of stable characteristics: sensibility was thought of as a faculty involving a perceptual act, it linked the physical, mental, and moral, it offered the possibility of manipulation of these three realms through non-naturals, and it functioned economically. But sensibility, sensationalist philosophy, and sensible medicine were not wholly new topics that arose spontaneously in 1740, and it is useful to consider how the

¹ Louis-Bertrand Castel, “Clavecin pour les yeux, avec l’art de Peindre les sons, et toutes sortes de Pieces de Musique,” Mercure de France (November 1725), 2553. Emphasis the author’s.

discourse of sensibility cohered into the form that it did. J. G. A. Pocock has argued that
“historians are justified in seeking to make the implicit explicit and to find levels of meaning in a
man’s thought which he did not directly express and of which he was not consciously aware.” He
warned, though, “We have…to be particularly careful–more careful than has sometimes been the
case–to indicate the historical moment at which the implicit is seen as becoming explicit.” If the
last chapter tackled the former goal, this chapter addresses the latter, showing how sensibility
took shape and emerged as a discourse in the mid-eighteenth century. Castel’s harpsichord offers
a vital research site for understanding more fully the limits of the discourse of sensibility.
Working between 1725 and 1757, Castel wrote at precisely that moment when sensibility, as an
implicit and freely circulating set of ideas, became an explicit concept in which a core of ideas
cohered. He dedicated over thirty years of work to a single theoretical system and a single
invention embodying that system, and he did so in a period during which sensationalist
philosophy and sensible medicine became prevalent in French thought, making it a useful case
for looking at the development of the discourse and its shifts over time.

Writers, physicians, and philosophers had already turned their attention to questions of
life, movement, and feeling by the end of the seventeenth century. The foundational text for
many French sensationalists, John Locke’s *An Essay Concerning Human Understanding* (1690;
translated into French in 1700), drew on medical currents, thanks to Locke’s time as a student of
the physician Thomas Willis. By 1684, Georg Ernst Stahl had already called the soul a “moving

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3 J.G.A. Pocock, “Languages and Their Implications: The Transformation of the Study of Political
principle” and had identified human faculties as an extension of this soul-agent. Francis Glisson and Giorgio Baglivi had made tentative experiments with irritability by the end of the seventeenth century. The word “sensibility” appeared as early as 1656, and by the dawn of the eighteenth century, then, there was already a great deal of debate about the issues that would figure centrally in the later discourse. According to G. S. Rousseau, “Mechanism, animism, and vitalism were responses to previous radical ideas and not radical new ideas in themselves,” and “the revolution in sentiment occurred in the last quarter of the seventeenth century. It took imaginative writers like Richardson and Sterne a half century to ‘catch up.’”

While the constituent elements of the discourse of sensibility were in circulation prior to the 1740s and 1750s, it was in this period that they reached a sort of “tipping point” where they coalesced in a more coherent discourse. The wider availability and popularity of sensationalist philosophy after Condillac published *Essai sur l'origine des connaissances humaines* (1746) put sensation in a starring role on the philosophical stageCondillac modified John Locke’s sensationalist philosophy by arguing that all knowledge comes from sensation alone, not from sensation combined with reflection, as Locke had claimed. With Condillac’s analytical method, the mental and the physical realms were easily bridged, such that “the material and mental spheres are now, as it were, reduced to a common denominator; they are composed of the same

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7 Locke’s philosophy had been available in France since Pierre Coste’s translation of *An Essay Concerning Human Understanding* in 1700.
elements and are combined according to the same laws.” In literature, the 1740s marked a high period for the novel, including English sentimental novels, which were popular in France. The rise of the novel was part of a longer eighteenth-century shift, but some of the key texts for this shift appeared during this decade, giving feeling a prominent cultural place: Samuel Richardson’s Pamela: Or, Virtue Rewarded (1740) and Clarissa: Or the History of a Young Lady (1748), Henry Fielding’s An Apology for the Life of Mrs. Shamela Andrews (1741) and The History of Tom Jones, a Foundling (1749), many of the works of the abbé Prévost, Voltaire’s Zadig (1747), and significant portions of Marivaux’s La vie de Marianne (1731-1745).

Crucially, the rise of Hallerian physiology from the mid-eighteenth century moved the term “sensibility” beyond its generalized, colloquial context into a more specific, formalized one that directly pertained to the body, movement, reaction, and feeling. Thanks to Haller, sensibility’s old, loose meaning of a capacity for feeling became inextricable from a physical, bodily context, and a new vocabulary for the expression of these linkages was forged. The concurrent emergence of vitalism, a medical philosophy concerned with a vital force characterized by movement, feeling, sentience, and economy, found a perfect candidate for their new holistic medicine in the concept of sensibility.

In intellectual life more generally, Ernst Cassirer has famously argued that the eighteenth century, contrary to earlier eras, sought a “concept of truth and philosophy whose function is to

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extend the boundaries of both and make them more elastic, concrete, and vital,” and *philosophes* understood the form of reason undergirding this new concept of truth “not as a sound body of knowledge, principles, and truths, but as a kind of energy, a force which is fully comprehensible only in its agency and effects.”¹¹ This new way of thinking, which could be characterized as an *esprit systématique* rather than a *système d’esprit*, emerged mid-century, and it found new expression in Diderot and d’Alembert’s *Encyclopédie* (1751-1772), which was made possible by a new secular, scientific, anthropocentric worldview.¹² Sensibility, as a concept that placed individual human experience at its center, held a great deal of potential and appeal for *philosophes*, writers, and reformers dedicated to such a worldview. Thanks to the combination of these larger intellectual and cultural shifts and the terminological interventions of Haller, sensibility emerged as a concept that offered a universalized, simplified vocabulary capable of uniting a number of earlier, loose concepts related to sensation, sentience, and reaction.

For the most part, Castel’s harpsichord has gone down in history as an oddity, as the quirky creation of an isolated thinker that was picked up by later generations of Symbolists or twentieth-century color musicians but that had little impact in its own day. To some modern scholars, the ocular harpsichord stands out as something kooky, perhaps the work of a “megalomaniac” or a “compulsive liar.”¹³ It has been described as a historical “snafu,” and “nothing more than a ‘gadget.’”¹⁴ Thomas L. Hankins describes Castel as a figure “on the

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¹² On the difference between the types of esprit, see ibid., 8-12; ibid., 14.


¹⁴ Ibid.
margin,” and argues that the ocular harpsichord “caused great confusion as to whether [it was] truly philosophical or not.”\textsuperscript{15} Such characterizations do the harpsichord’s full impact (and that of its creator) little justice. Maarten Franssen is one of the few scholars who as attempted to analyze the extent of Castel’s impact on contemporary thought, taking seriously Castel’s broad popularity and intrigue by showing that “the ocular harpsichord counted as an invention that one had to come to terms with, and even while it was mostly rejected, even by the Romantics, as a practical instrument, there was a wide recognition of the basic ideas behind it.”\textsuperscript{16} Franssen’s work marks a necessary recuperation of an instrument that has been too easily dismissed by scholars. This chapter takes as a given his claims that Castel’s harpsichord was popular within its own time and that Castel’s ideas fit within the broader scientific and philosophical context of the period. Castel’s ideas may not have been unanimously accepted, but neither were they immediately dismissed as the product of a crazy or unintelligent man.

Ultimately, the reception history of Castel’s harpsichord highlights the development of the discourse of sensibility. In her treatment of the emergence and decline of the discourse of the science of man, Elizabeth Williams has addressed the intractability of “how discourses are formed and how they disintegrate.”\textsuperscript{17} She argues that “the science of man accrued widespread support and then, having exercised dominance, collapsed into a substratum of principles and

\textsuperscript{15} Thomas L. Hankins, “The Ocular Harpsichord of Louis-Bertrand Castel; Or, the Instrument that Wasn’t,” \textit{Osiris} \textsuperscript{2}nd series, 9 (1994), 141-2.


impulses no longer joined under one discursive rubric.””18 According to Williams, individuals rely on a “body of transmitted texts, concepts, and linguistic usages” from the past to support or condemn new constructs, and the identification of a discourse with discredited traditions catalyzes its destruction.19 Williams’ explanation is useful when considering the emergence of the discourse of sensibility in the 1740s. In a discursive field’s rise to dominance, it often finds a counterpoint in older traditions that have been discredited, and the new discourse takes position in opposition to its precedent. Yet, as Williams shows, it is overly simplistic to think that all elements of the former discourse are suddenly discarded. Powerful constructs are not born of some alchemical process where they are conjured out of the aether. As Lockean concepts of knowledge came into conflict with Cartesian models, and as overly systematic approaches to the world lost their luster, the discourse of sensibility stood as an ideal contender for absorbing some of these traditional elements while still offering a more flexible, integrated vision of the world. The existence of loose concepts of sensibility shines through clearly in Castel’s work, but it was not until sensible medicine and sensationalist philosophy reached their maturity that the language of sensibility took the form outlined in Chapter One. The case of the ocular harpsichord demonstrates how sensibility formed in relation to preexisting concepts, and it shows that the progression between different models of sensibility is best conceived as a series of evolutions rather than paradigmatic shifts.

Just as Castel refined his theories over a thirty-year period, so too did critics and supporters refine theirs. A series of critiques followed the ocular harpsichord’s first appearance

18 Ibid., 7.
19 Ibid.
in 1725, another spate followed Castel’s 1735 writings, and yet another set appeared in the 1740s after the release of his *L’optique des couleurs*. Rejections of the harpsichord focused on matters as diverse as Castel’s physiological system, the conflicts of attention entailed by his system, and the fact that Castel confounded the effect of sensation with its cause. What all of these rejections shared, though, was an emphasis on the ways in which Castel’s harpsichord failed to fit with the characteristics that later stabilized into the discourse of sensibility, illustrating that a common set of sensible expectations developed over the course of the debates. While Castel himself may best be viewed as a liminal figure in the development of the discourse of sensibility, the debates that surrounded his theories demonstrate the process described by Pocock, whereby the discourse became explicit.

**Louis-Bertrand Castel and the Theory of Color-Music**

Louis-Bertrand Castel was born in Montpellier on November 11, 1688, and became a member of the Society of Jesus at the age of fifteen on October 16, 1703.²⁰ He took an early interest in mathematics and philosophy, and after finishing at the École Saint-Stanislas in Toulouse, Castel began teaching in Jesuit schools. Impressed by Castel’s early writings on mathematics and physics, Bernard Le Bouyer de Fontenelle, the secretary of the Académie Royale des Sciences, and René-Joseph de Tournemine, the editor of the *Mémoires pour l’Histoire des Sciences et des Beaux Arts* (or, *Journal de Trévoux*), requested that Castel come to

²⁰ Most of these facts come from Castel’s éloge, which was printed in the *Journal de Trévoux*, ou Mémoires pour servir à l’histoire des sciences et des beaux-arts [hereafter Journal de Trévoux] (April 1757): 1100-1118, and reprinted in [Abbé Joseph de La Porte], *Esprits, saillies et singularités du P. Castel* (Amsterdam: Vincent, 1763), v-xxxii. For more details on Castel’s life, see Franssen, 16-18, or Donald S. Schier, *Louis Bertrand Castel, anti-Newtonian Scientist* (Cedar Rapids, IA: The Torch Press, 1941).
Paris in 1720. He became a teacher of mechanics and infinitesimal calculus at the Collège Louis-le-Grand and an editor for the *Journal de Trévoux*, a position that he held until 1746. Fontenelle introduced Castel to esteemed Parisian social circles, including the *salon* of Madame de Tencin. In 1722 or 1723, Castel made the acquaintance of Montesquieu, with whom he became life-long friends.

Castel’s social circles included many other prestigious individuals; the Prince de Conti counted among the visitors to his workshop, and his benefactors included the Comte de Maillebois and the Duke of Huescar, the Spanish ambassador. Castel often used his social connections to promote promising thinkers, two of whom have become prominent in the annals of history. In 1722, he met Rameau “through a mutual friend,” and according to Thomas Christensen, Castel was not only the “first propagandist” for Rameau’s music theory, he was “probably the most important.”

Castel was also one of the first people that Rousseau met upon his arrival in Paris in 1741, and in an attempt to save Rousseau from penury, Castel wisely recommended that Rousseau “apply to the women,” for “nothing is done in Paris without the women. They are the curves of which the wise are the asymptotes; they incessantly approach each other, but never touch.”

Over the course of his career, Castel published many works, including thirty-eight articles in the *Journal de Trévoux* and twenty-two in the *Mercure de France*. Castel’s long-form works

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included *Traité de physique sur la pesanteur universelle des corps* (1724) and *Mathématique universelle* (1728). The latter led to his acceptance in the Royal Society of London, where it “was judged ‘marvelous, extraordinary, excellent.’”\(^{24}\) Of all Castel’s ideas, though, it was most assuredly the ocular harpsichord that caused the greatest stir. The first mention of the instrument was in a letter to M. Decourt published in the November 1725 edition of the *Mercure de France*. In it, Castel suggested that “colors follow the proportion of musical tones, and that each tone corresponds with each color.”\(^{25}\) For Castel, these correspondences were not merely representational or associative; they were fundamentally linked in nature, directly mapping onto each other, and sharing a number of fundamental characteristics. This letter proved suggestive enough to kindle imaginations, but it was not until 1735 that Castel developed the idea at any length. In a series of six lengthy letters to Montesquieu published in the *Journal de Trévoux* under the title “Nouvelles expériences d’optique et d’acoustique,” Castel delineated his “physico-moral system of taste.”\(^{26}\) This series of letters outlined the color system that was developed at more length in Castel’s opus *L’optique des couleurs* (1740), but it also included a number of theorems on the nature of perception, pleasure, and beauty not found in the more music-, physics- and mathematics-oriented *L’optique*.


\(^{24}\) de La Porte, *Esprits, saillies et singularités*, xvii. He was also elected to the Bordeaux Academy in 1746 and the Academies of Rouen and Lyon in 1748.

\(^{25}\) Castel, “Clavecin pour les yeux…,” 2559.

Of course, any new type of music requires its own musical theory, and Castel was all-too-happy to oblige. In auditory music, there is a continuum of vibrational rates (what we now think of as frequency), but Castel noted that humans discern only a limited number of distinct tones. These tones make up the chromatic scale, which includes the seven pitches of the diatonic scale (described by the syllables ut, re, mi, fa, sol, la, and si) and five chromatic alterations (by which ut, re, fa, sola, and la are raised by a half-step). In a nod to contemporary musical practice and its most widespread theorizations, Castel asserted that three pitches were essential sounds: the first (tonic), third (mediant), and fifth (dominant) scale degrees, which together comprised the “tonic triad.” Castel used these basic music-theoretical precepts as models for his system of color-music. As with sounds, he argued, there is an infinite continuum of color, but the senses can discern only a limited number of distinct shades. He identified the twelve colors of the chromatic scale (a doubly appropriate term here) as blue, celadon, green, olive, yellow, rosy gold or tawny [aurore, which he also referred to as fauve from time to time], nacarat (a red-orange color), red, crimson, violet, agate, and blue-violet [bleu violant]. These colors analogically corresponded to the musical chromatic scale, so the five chromatic alterations were blue, green, yellow, red, and violet. Blue, red, and yellow furnished the three essential colors.27

The parallelism between the two musics continued. Just as “two things constitute sound, the diversity of sound and that of low and high pitch,” “two things constitute colors: the diversity of coloration and that of chiaroscuro [light and dark].”28 In the same way that there were twelve

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28 Ibid., 300.
degrees of color, Castel argued that there were twelve degrees of lightness and darkness. As colors got darker or lighter (or as notes got higher and lower) they followed this second scale of twelve units. For example, a pale blue and a dark blue were both analogous to ut, but they differed on the chiaroscuro scale. This would indicate that they varied in “pitch” but not in “sound.” But a “gray-white” red, and a “gray-white” crimson, would have varied in “sound,” but not in “pitch.” When one combined the twelve possible colors/notes with the twelve possible degrees of shading/pitch, it became evident that “in all, there are 144 degrees of colors nuanced with harmony, as there are 144 degrees of tones or of harmonious sounds,” and consequently, an ocular harpsichord, designed to represent all discernible notes and colors, would have 144 keys.

Castel’s conceptualization of color was drawn more from paint and dye than from light. This was one of his primary objections to Newton, whom Castel argued should “capitulate a bit more to colorists and submit himself more to the fact of the substantial colors, common and manipulable, of Painting and Dyeing.” Castel believed that the prism was “a curiosity, an amusement, a fad,” and that the analysis of light through a prism was likely to yield “a specter proper to seducing the mind by means of the eye.” Castel disagreed with Newton’s claim that seven colored rays would leave a prism, counting only four instead. He also disagreed that these

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29 These degrees, confusingly named, are as follows: black, black/black/gray-black, black/gray-black/gray-black, gray-black, gray-black/gray-black/gray, gray/gray/gray-black, gray, gray/gray/gray-white, gray-white/gray-white/gray-white, gray-white/gray-white/gray-white/black, gray-black/white/white, and white.


colors ranged between red and violet, arguing instead that white occurred in the middle of these colors. In fact, Castel’s disagreements were quite numerous, and he continued in this vein for six more points, but what is important to take away is the fact that Castel felt that any proper analysis of color had to be rooted in color as a substantial phenomenon, not a luminous one. This meant that in Castel’s system, white was not the foundational color. Instead, this role went to blue, from which he argued all other colors derived. White and black were not separate colors, per se; they consisted only in degrees of shading. Castel claimed that “color cannot be detached from the chiaroscuro,” meaning that all colors have a particular shade attached to them, but “the chiaroscuro can be detached from color,” which is how black, white, and various shades of gray exist. Locating colors in the substantial realm was central to Castel’s theory that color could be directly mapped onto the chromatic scale, as well as his hopes for the system’s commercial applications in the realm of textile dyeing and painting.

For Castel, not only were colors and sounds analogous; so too were their harmonies. He argued that musical harmonies correlated directly with those of color, making it possible to play musics of light and sound simultaneously, and where musical melodies produced pleasure and emotion, so would the melodies of their corresponding colors. For example, playing a piece from Bach’s Das Wohltemperierte Clavier would result in a series of color projections that matched the music in subtlety, tone, and mood. The succession of colors would not simply accompany the

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35 Castel, L’Optique, 310-311.

36 These will be discussed in the next chapter.
Bach piece; they would be the Bach piece in a different form and would yield the same experiential pleasures.

The Relationship of the Harpsichord to the Discourse of Sensibility

Castel’s harpsichord, popular as it was, did not always meet a sympathetic audience. Over the course of thirty years, his project was both harshly critiqued and fervently accepted. An analysis of Castel’s theories alongside the reception of his work reveals a consensus about sensibility and its adherence to the stable characteristics discussed in Chapter One. This section will revisit these four characteristics, analyzing the ways in which Castel’s theories aligned with and diverged from them and showing how the critical reception of his work demonstrated a movement toward discursive stabilization.

1. The Simple Agreement Model of Pleasure

Recall that the first characteristic of the discourse of sensibility was that sensibility was understood as a faculty involving a perceptual act. This meant that sensibility stood as the mediator between external stimuli and perception, transmitting vibrations through a system of physical fibers to the brain, where the internal senses could store, process, and interpret these stimuli. Castel’s basic ideas of how the body worked bore a striking resemblance to those operative in sensible medicine, whereby all sensory experience was generated by the vibrational action of objects on nerves. He wrote to Montesquieu and the Mercure in 1735, “All the pleasures of the senses consist in the moderate shaking of the nerves by objects. In fact, the eye,
like the ear and all the other senses, is capable of this shaking.”37 He continued, explaining how these vibrations transformed into pleasures: “It is the soul, properly speaking, that feels these pleasures by the means of nerves…provided that the shaking is moderate, and there is no fear for the well-being of the body, there will even be some instruction to gain for it…it will always furnish pleasure.”38 In Castel’s reckoning, stimuli struck fibers, causing them to tremble, and these sensations were transmitted through the nerves to the soul, where the pleasure was felt. As sensible physicians would also argue, Castel claimed that moderate fiber vibration was optimal for pleasure and the preservation of the being. On the whole, this description of sensation, vibration, and pleasure as interlocking units in the perceptual system fit neatly within the idea of sensibility as the gateway between the internal and external senses. It even suggested a sensationalist origin of pleasure, if not knowledge tout court.

But it is precisely regarding this question of pleasure where Castel diverged from the stable characteristics. For Castel, the suppleness or rigidity of fibers was a direct response to pleasure or pain. “When the soul rejects something whose taste is suspect or displeasing to it,” he wrote,

healthy Physics teaches us that this soul, all-powerful over the body on such occasions, slackens or stiffens the nerves, the fibers, suspends or accelerates the movement of the humors, the so-called animal spirits; and that all of its efforts go toward temporarily blocking the conduits, or to blunting the sensations or the sentiments that displease it.39

Conversely, when the soul savors a sensation, “It becomes attentive, opens the organs; it moderately tightens or relaxes the nerves, muscles, makes the humors run uniformly, and puts

everything as if in unison…” Counter to the stable discourse, Castel posited these physiological reactions as the effect of the soul’s pleasure or displeasure rather than its cause, and he argued that taste was based in something prior to physical response. According to Castel, “one can account a priori for the tastes and distastes that one has for things,” privileging a non-corporeal element of perception. Pain and pleasure involved a physical reaction, but the soul determined a priori whether an experience would elicit the bodily response appropriate to pain or pleasure. The physiological reactions that Castel described may have the same as those prevalent in the later discourse of sensibility, but this was a significant departure from the economic model of sensibility. In the economic model of pleasure, the mind and body were subject to a host of influences that not only determined to what extent something was pleasurable, but also whether it was pleasurable at all. Such a perspective opened up the possibility for concentrated improvement of an individual’s capacity to experience pleasure. Non-naturals would somewhat mechanistically render certain effects (for example, coffee would always heighten the fire element in one’s blood), but the experience of pleasure and pain was highly dependent on the sensible composition of the perceiver.

In contrast, much of Castel’s work relied on the idea of pleasure as inherent in nature, stapled to immutable fixities set in place by the Creator. The body and mind would typically be in accord, making it seem that pleasure had some sort of material basis, but in Castel’s system, the particularity of the individual body actually had little bearing on the reception of these pleasures. According to Castel, the vibrations of sensory stimuli (air, light, etc.) directly caused


41 Ibid., 2651.
and directly matched the vibrations of sensory fibers. In a perfect octave, the vibrational frequency of sound occurs at a ratio of 2:1, and Castel argued that the auricular fibers, struck by such vibrations, would vibrate at a 2:1 ratio as well.\textsuperscript{42} Because of the natural correspondence between color and sound, a medium shade of red followed by a darker shade of red would likewise strike the ocular fibers at a vibrational ratio of 2:1.

These vibrational rates were crucial to Castel’s theory of pleasure. When different tones (of color or light—or of smell, taste, or touch for that matter), combined, one experienced pleasure if the ratios of these rates were simple rational numbers.\textsuperscript{43} This is why octaves and perfect fifths are so enjoyable, and in just the same way, he argued, this is why blue and crimson can be considered harmonic colors. Stated more directly, in the words of Castel himself, “The pleasure and displeasure of all our senses consist in the same type of vibrations, that is to say, in vibrations and harmonic proportion.”\textsuperscript{44} Thus, Castel indicated that there was a direct relationship between pleasure and the stimulus that inspired it, locating one’s experience of the object directly in the object itself. In contrast with the economic model, this “simple agreement” model of pleasure—an appellation derived from Castel’s own vocabulary—held that there is a simple relationship between pleasure and its source.\textsuperscript{45} Pleasure was the direct effect of a single variable,

\textsuperscript{42} Louis-Bertrand Castel, “Demonstration Geometrique du Clavecin pour les yeux et pour tous les sens, avec l’éclaircissement de quelques difficultez, et deux nouvelles Observations, par le R. P. Castel, Jesuite,” 	extit{Mercure de France} (February 1726), 282.
\textsuperscript{43} Ibid., 279-280; Ibid., 290.
\textsuperscript{44} Ibid., 286.
\textsuperscript{45} As Castel described the various possible pleasures, he emphasized that “music is a pleasure of the mind, un simple agrément” (Castel, “Suite et cinquième partie des nouvelles expériences d’optique et d’acoustique adressées à M. le président de Montesquieu,” 	extit{Journal de Trévoux} (Nov. 1735), 2349.). In most places, I translate agrément as “pleasure,” but for the model name, it seems more a propos to use the term “agreement,” which represents both the agreeableness of the sensation and the agreement between an object and the pleasure it inspires.
reliant more on the vibrational relations between external stimuli than on any physiological or psychological particularities of the perceiver. In reducing pleasure to a set series of vibrational ratios, Castel implied that pleasures are fixed, immutable, and locatable, and with the simple agreement model, acquiring pleasure was more like a game of hide-and-seek than a subjective response to stimuli.

This vision of pleasure directly contradicted one of the main elements of the first stable characteristic of sensibility: its status as a faculty. Castel acknowledged that sensation could inspire passions and pleasure, but by arguing that pleasure inhere in particular vibrational ratios, he implied that it was a natural truth instead of a capacity for receptivity. Notably, though, Castel maintained that action was necessary for the soul to be moved. “I know no good, no pleasure, no accord that doesn’t have work as its price,” he claimed. And that enjoyment [jouissance] itself is an act, proves that [pleasure] is an action and not a rest. His was not a model of pure passivity; sensibility, in some degree was still active, even if it was not a faculty. Castel’s theories, drew close to the later discourse of sensibility but that differed from it crucially in its deterministic and universal vision of pleasure. In Castel’s schema, there was little room for the individual or the idiosyncrasies of perception.

Relatedly, his strong analogical reasoning entailed that there was little room for the different action of the senses. Castel maintained, “The soul should feel pleasure in whichever part of the body experiences moderate and commensurate vibrations, which is to say, in which


47 Ibid.
the relationship is numerical.”48 This meant that, so long as the vibrations of sensory organs operated mathematically, it did not matter whether the organ in question was the eye, tongue, nose, skin, or ears. Castel stuck to the hard line that “the soul responds to the optical nerve like the auditory nerve; and it feels the affection of one like the other.”49 Castel used such analogies and fixities to point to the providential design of the Creator, and he was staunchly anti-materialist, as was made readily apparent in a letter he wrote in 1756 against Rousseau, *L’Homme moral opposé à l’homme physique de Monsieur R***. Ironically, though, Castel’s concept of sensation readily lent itself to a materialist interpretation. By standardizing the reactions of the soul and showing that pleasure came directly from material bodies and the vibrations that they caused, it was a simple philosophical move to eliminate the intervention of the soul altogether. From the harpsichord’s introduction, a number of critics took umbrage with Castel’s highly deterministic concept of pleasure. In 1726, the anonymous Philosophe Gascon targeted two of Castel’s theories in particular: “One, that colors, once they are in harmonic proportion, will cause sonic pleasure. The other, that each object of our senses excites the same manner of vibrations and that the diversity of membranes, as great as it could be, does not matter at all.”50 The philosophe attacked the basis of Castel’s system by arguing that God provided humans with five senses that concurrently work for the conservation of the being, each with its own purpose. Sight was the torch that guided us, hearing facilitated commerce with other humans, smell made us avoid harmful substances and enticed us toward that which is useful, and


touch and taste had “their respective separate functions” (which he apparently couldn’t be bothered to name). If one were able to transpose the sensations of the ear to the eye, this would render the ears useless, and given that God made no mistakes in nature, the philosophe claimed that Castel’s idea of the coincidence of sensory organs was inherently faulty.

The Gascon claimed that Castel’s faulty analogies had led him to a massive logical error. He accused, “You confound the sensations that the soul feels with the occasional causes of these sensations.” While the philosophe agreed with Castel’s assertion that light and sound both agitate the air and bodily organs, he disagreed that this similarity implied equivalence. Instead, he deemed it a relationship of mere resemblance, since “we come to sensation itself inasmuch as it appertains to the soul and serves to modify it.” Unlike Castel, the philosophe understood sensation, not as the reception of stimuli, but as a process of perception that required the soul’s intervention. For the philosophe, sensibility existed as a variable faculty, dependent on the action of the internal senses, rather than a principle of simple agreement.

Even if one were to leave the soul out of the question, though, the philosophe offered physiological counter to Castel’s arguments. He claimed that sensory organs, having different physiological compositions, would necessarily alter the vibrations that struck them, causing a variety of vibrations as infinite as the variety of organs. “The membranes and the humors of the eye are tissues entirely different than the membrane of the tympanum and all of the ear cavity….Thus, vibrations, in passing from the air into the eyes, undergo different refractions in

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51 Ibid., 932.
52 Ibid., 933.
53 Ibid., 934.
54 Ibid., 936.
the humors, and receive infinitely different modifications than those that pass through the air into
the ears.”
Thus, physical composition could directly affect the way in which a stimulus was
received, which would in turn, alter the way in which it transformed the soul. This argument
was leveled at Castel again in 1737, when Dortous de Mairan offered a “Discours sur la
propagation du son dans les différents tons qui le modifient,” at the Académie des sciences, in
which he argued that “each sense has its own object.” Because light is composed of different
corpuscles and has different degrees of refractibility, Dortous de Mairain held, its movement is
fundamentally different from that of sound. Rousseau took up this continued objection later in
the century with his *Essai sur l’origine des langues*, in which he argued that Castel’s
mathematization of the angles of refractibility of light and of the vibrations of sounds were “of
reason, not sensation.” “Sonorous bodies are submitted to the action of air,” he wrote,
“incessantly changing the dimensions and sounds. Colors are durable, sounds disappear.”

All these rejections focused on the fact that that Castel drew simple analogies between
the eyes and the ears. Critics argued that Castel’s theories fell short because they did not allow
for the variability of experience and instead took their basis from theoretical linkages. Rousseau

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56 While this connection remains largely unelaborated in the philosophe’s letter, it demonstrates that he had a conception of sensibility as dually affecting physical and mental processes. His depiction of this relationship is, for the most part, unidirectional, with the body changing the stimulus received by the soul, but it is important to note that a partial bridge has already, as early as the 1720s, been forged between these ontological domains.

57 Ibid., 22-24. Emphasis the author’s.

58 Jean-Jacques Rousseau, *Collection complete [sic] des oeuvres de J. J. Rousseau*, vol. 11, *Oeuvres posthumes de J.J. Rousseau, citoyen de Genève*, vol. 2., *Sur l’origine des langues* (London: n.p., 1783), 604. This work was originally composed sometime between 1755 and 1763 and was first published posthumously in 1781.

59 Ibid.
directly accused Castel of exhibiting an “esprit de système,” or an overly strict reliance on theoretical *a priori*:

This analogy [between colors and sounds] was vigorously seized upon immediately, without bothering with experience and reason. The *esprit de système* has confused everything…I have seen this famous harpsichord that purports to make music with colors: it is poorly acquainted with the operations of nature, failing to see that the effect of colors is in their permanence while that of sounds [is] in their succession.  

At the same time that the discourse of sensibility became explicit, thinkers like Condillac and d’Alembert argued that concepts had to be empirically developed from facts rather than formulated from abstract theories. Castel, who argued that pleasure was hardwired, determined, and subject to geometrical, physical laws, began his discussion of the harpsichord from purely theoretical grounds, a method that many of his critics found to be too rigid to take into account the variability of individual experience.

2. The *Je ne sais quoi*

Castel’s writings show that he was deeply affected by the Gascon’s refutations. Up until his death, Castel maintained that all sensory modes functioned analogically, but it was in the “Nouvelles expériences d’optique et d’acoustique” (1735) that he offered the most forceful rebuttal to the Gascon. Castel maintained that pleasure could be defined as a simple agreement, but he complicated his argument significantly in this text, acknowledging that taste has an

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60 Ibid., 603. Castel frequently emphasized in his manuscripts that he had subjected his theories to experiment by trying to make the harpsichord, but thinkers like Rousseau still countered that his theories were too rigid, supplying the structure for the experiment rather than permitting the experiment to reveal the truths of nature.

element of “je ne sais quoi,” and that to a certain extent, “pleasures are arbitrary.” Castel’s exploration of this je ne sais quoi began with an analysis of perception, which he divided into three components: sensation, sentiment, and idea, which corresponded respectively to the soul, heart, and mind. The soul was intimately bound to the body, and it consisted of both the animating substance and the realm of brute sensation, wherein stimuli struck the nerves and set them to trembling. The mind was separate from the senses, having nothing but ideas and pure intelligence, and the heart was half body, half mind. It was in the heart that sensation and idea were balanced, producing sentiment, which Castel defined as “the middle ground between idea and sensation.”

The first stable characteristic held that sensibility was the perceptive realm between idea and sensation, mediating between the vibrations of fibers and the thought processes of the mind. Castel may not have treated the process of sensation as a faculty, but he did present a perceptual schema wherein one’s mental faculties were as central as the physical mechanisms of the senses themselves. In Castel’s 1735 expansion of his philosophy, “sentiment” occupied the role of sensibility, consisting neither in “simple ideas or in simple sensations,” but in “a general and vague idea, resulting from many ideas that the mind cannot easily untangle.” Sentiment was, like sensibility, the realm of perception where idea and sensation mingled, giving man the capacity to understand the world with both the body and mind. Castel did not use the term

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63 Castel was not entirely rigorous in his use of these terms. He often used “âme” to refer to ideas or non-bodily processes associated with the mind.

64 Ibid., 2342-2346.

65 Ibid., 2432.
“sensibility” in this early text to express the meeting of sensation and idea, but “sentiment” functioned as a stand-in, with its functions closely matching that of sensibility. Pleasure may have been the result of a simple agreement, but in Castel’s 1735 elaboration on his original system, he added sentiment into the perceptual system as a third term. It was in this realm that the pleasure derived from simple agreements had its deepest effects, and what Castel called sentiment furnished the middle ground between idea and sensation, linking the physical, mental, and moral.

According to Castel, sentiment was the most preferable form of perception because ideas “the ideas of the intellectual are almost always abstract, irreducible to practice, and useless to the commerce of life, to the good of society,” while sensations are the basest and coarsest form of perception.66 Sentiment provided the proper mixture of reason and sensation, allowing mediation between that which was too abstract and that which was too concrete.67 According to Castel, sentiment was the unique province of man, while beasts remained limited to sensation, and angels were made up of pure mind.68 The status of the human as a sentimental (or sensible) being meant that human perception was always a mixture of sensation and idea, albeit sometimes more of one, sometimes more of the other, depending on the degree to which either the body or the mind predominated. While all three realms of perception had their respective pleasures according to Castel—physical pleasure, pleasures of feeling, and intellectual pleasure—human experience was never entirely physical or entirely intellectual; these were necessarily mingled. Sentiment, in

66 Ibid., 2343-2344.
67 Ibid., 2343-4.
68 Ibid., 2345
its purest sense, was the “just equilibrium” of sensation and idea, and it served as a stand-in for sensibility, which was in equal measure mental and physical.  

69 Already in 1735, Castel offered a concept of human life in which sensible processes had the power to link ontological domains.

Castel frequently referred to the intimate connections between the soul and the body.

Turning the Cartesian dictum on its head and sounding like a direct precursor of the vitalist physician Théophile Bordeu, Castel announced, “Let the speculative say, ‘I think, therefore I am.’ And I, real man, say, ‘I am stirred, therefore I live.’”  

Yet overall, Castel still tended to keep the body and mind separate, arguing that the mind could dominate the other aspects of being. His ambivalence seems to come from his desire to inhabit a philosophical middle ground that he called “halfway mechanist, halfway spiritualist.”  

Castel did not use the term “mechanist” in the way that a modern scholar might; instead, he equated mechanism with what we would refer to as materialism.  

Castel referred to mechanism as the “overly corpuscular philosophy of moderns,” and in this system, he argued, habit was equated with “an all corporeal mechanism, consisting of the bends of fibers, the traces of the brain, the temperaments of animal spirits.”  

Castel rejected this “overly corpuscular philosophy” on the grounds that the mind

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69 Ibid., 2346; Castel also claimed that sentiment was proper to “l’homme poli,” or the well-born man of good taste, which meant that sentiment also related to moeurs, binding the mental, physical, and moral.


72 I should point out that many of the famous mechanists of Castel’s day were quite religious, and one should not equate Castel’s mechanists with the later radical materialism of thinkers like d’Holbach, even if Castel himself saw them as radical.

73 Castel, “Suite et sixième…,” 2649.
played a larger role in perception than mechanists tended to allow. Castel admitted that physiological processes played a large role in the experience of pleasure, but as a halfway-spiritualist, he sought to “maintain the incontestable superiority of the mind’s prerogatives.”

Castel’s desire to avoid the “atheistic and impious extremity” of mechanism (which he associated with Descartes, oddly enough, and Spinoza) raised several logical problems over the course of the treatise. For one, the simple agreement model of pleasure butted heads with Castel’s reliance on a sensationalist epistemology, which centered on the malleability of human experience. As a result, Castel constructed a system pulled between poles. In his system, physiology was central to pleasure but pleasure was not central to physiology; aesthetics were dependent on a variety of stimulation, but stimuli did not have varying effects on the perceiver; and pleasure could be universally and homogeneously experienced, but perception still depended on the particular intelligence and aptitude of the perceiver. These two models of pleasure, one in which pleasure inhered in the object that inspired it and one in which pleasure inhered in the perceiver, were at odds, yet Castel repeatedly (and frustratedly) tried to reconcile them.

3. Education and Habit in Castel’s System

Overall, Castel upheld that the relationship between certain pleasures and certain modes of stimulation was stable, direct, and necessary, but his sensory system also left a door open for the distinctiveness of the perceiver. In places, Castel argued that despite the fact that pleasure was a fixed phenomenon, it was not equally evident to all people. This tension between fixed

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74 Ibid., 2650.
75 Ibid., 2650.
pleasure and the individuality of the perceiver formed one of the most obscure components of Castel’s theories. Many writers, objecting to Castel’s *esprit de système* favored a model that took into account the specificities of individual physiology, intellect, and morality rather than what they considered a simplistic correlation between stimulation and reception.

For Castel, the mind took precedence in determining whether pleasure was felt, and the degree of intellectual cultivation greatly affected whether one was capable of experiencing the deep and full pleasures available in the world. Ideal vibrational ratios existed in nature, but “uncivilized” or uneducated people did not have minds or souls adequately cultivated to grasp the pleasures of these ratios. Therefore, “Savages have only savage music, proportional to their degree of mental cultivation,” and “The People enjoy only popular and trivial music.”

According to Castel, the capacity for true pleasure derived from intelligence, which could be further defined in relation to geographical location and social class:

…in this populace in question, I could still distinguish classes, of the villager and the city-dweller, of the provincial and the Parisian, of the artisan and the bourgeois, of the common people [*Peuple peuple*] and the uncommon people [*Peuple non peuple*]: and prove that the music that each one enjoys is proportionate to the degree of knowledge of his condition or of his education; except for the small exceptions that particular tastes, rare geniuses, happy or unhappy chance can bring about.  

By placing pleasure in relation to the mind, and moreover, in relation to class, Castel was able to explain why certain people had a more refined enjoyment of music, even if stable ratios of pleasurable vibrations existed across cultural and social lines. Additionally, in equating habit with intelligence, Castel was able to explain how differences in taste occur across the globe.

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76 Castel, “Suite et cinquième…,” 2358; Ibid., 2359.

77 Ibid., 2360-61.
According to Castel, “A foreign and unknown music is nothing but a confused noise that excites only sensations, and consequently, no pleasure,” and it is only through repeated exposure and familiarity that the mind comes to recognize the pleasure in the sensation. This need for habituation explained why “Italian music only pleases Italians, and those familiar with it; the French, etc.” Sensation alone could cloud the process of appreciation, and a perceptive act was necessary to filter these sensations into the proper sentiments and ideas before one could correctly identify whether they were pleasurable. Habit and education assisted in this process by familiarizing one with the particularities of certain melodies, tones, and cultural expectations. Castel pointed out that Parisians “would not know how to enjoy the Chinese tunes that run through Paris” if it had not been for du Halde’s presentation of them in his *History of China*.

By adopting this culturally relative logic and relating the pleasure of the harpsichord to knowledge of musical theory, intellectual refinement, and the necessity of repeated exposure, Castel could more effectively defend the harpsichord from naysayers. Who would want to admit that they were not intelligent enough to enjoy such a supreme pleasure? Castel’s claim that “we are all machines of habit” meant that if a spectator failed to enjoy the harpsichord, it was because the spectator “[did not] have the mechanical habit of the body, the organs, the fibers, the traces, the spirits, nor the spiritual habit of intelligence, science, memory, imagination, in a word, of the soul, the heart, and the mind.” Any lack of appreciation derived from the fact that “color music

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78 Ibid., 2366.
79 Ibid., 2363.
80 Ibid., 2364.
81 Castel, “Suite et sixième…,” 2764; Ibid., 2649.
would only please connoisseurs,” and that the public had failed to “familiarize itself with the reasoning in order to enjoy it.”

It would not be due to some inherent flaw in his system or in the instrument’s ability to please. In essence, there was no way to object to the harpsichord without looking like a rube.

These claims implied that through education, bodily training, and the proper exercise of the heart, soul, and mind, the sensible system could be manipulated such that the experience of pleasure was attainable. Here, Castel drew nearer to the third characteristic of the discourse of sensibility, which emphasized the malleability of the sensible system. Ultimately, Castel sought “a physical or physico-moral reason, drawn from the laws of the union of the soul and body, for the difficulty of enjoying all new things.”

But the flexible conclusions that he reached posed problems for his overarching arguments about the harpsichord and separated him significantly from the economic model of sensible functioning that accompanied the discourse of sensibility. For one, the “physico-moral” reason Castel offered implied a possible opposition between the body and the soul. According to Castel, the senses could deceive the soul, making an experience seem unpleasant, even though, with habit, it would result in enjoyment.

For instance, first-time viewers may have found the harpsichord discombobulating even though nature dictated that, because of vibrational ratios, it should have granted them great pleasure. With time and experience though, Castel claimed, all viewers would find the harpsichord rapturous. In such a case, the senses offered incorrect information, and the soul had to ward off or correct these

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82 Castel, “Suite et cinquième…,” 2370; Ibid., 2368; Ibid., 2371.

83 Ibid., 2371-2.

84 Ibid., 2372.
This perspective stood in stark contrast with that present in the discourse of sensibility, where there could be no objective, rational truth external to one’s subjective sensory experience of the world. The mind and the body were mutually constituted, and the mind had no *a priori* concept of pleasure that stood outside sensory mediation. In essence, there could be no disjunction between what one “should” experience as pleasurable and what one did. In other words, in the discourse of sensibility, because all knowledge came from sensory experience, there was not an objective pleasure situated outside oneself with which the senses must be brought into line. The discourse of sensibility did allow that the senses sometimes could be deceptive, but a person’s knowledge of the world still could not deviate from sensory experience. In the discourse of sensibility, the individual particularities of the perceiver altered the perception rather than determining if it was properly felt.

Strikingly though, Castel claimed elsewhere that “new likes and dislikes are contracted only in order to improve the ‘double being’ [of body and mind],” a statement that suggested that the body and mind should be in accord in matters of taste. Privileging of the mind over the body in the determination of pleasure, while simultaneously declaring that they are a “double being” with “laws of union,” raised another crucial flaw in Castel’s epistemological system. As a halfway mechanist, Castel acknowledged the sensationalist viewpoint that all experience is based in sensation; that humans know the world through the senses, and these sensations ultimately give way to sentiments and then to ideas. And yet as a halfway spiritualist, he was reluctant to

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86 Castel, “Suite et sixième…,” 2673.
give sensation so much power, instead claiming that the mind and soul are already predisposed to interpret bodily experience. For Castel, sensation was purely material, and the mind’s judgment was the aspect of being that translated sensation into pleasure, appreciation, or taste.  

Yet if the mind was truly “alone and detached from the body,” how could ideas stem from sensation? And more to the point as it related to pleasure, if habit and intelligence were the driving factors behind whether one was able to tap into certain naturally pleasurable experiences, whence did this habit and intelligence come? My goal in drawing attention to such logical problems is not to undermine Castel’s philosophical system. Instead, I am demonstrating instances in which Castel’s simple agreement model ambivalently mixed with the conceptions of talent, habit, and education that later characterized the discourse of sensibility. The wholly sensationalist epistemology of the discourse of sensibility, in which the mind was unfettered by a priori judgments and experienced pleasures subjectively, offered more space for the manipulation of sensibility. But because of the double bind created by his sensationalist/spiritualist system, Castel never fully resolved the question of the origins of the intelligence and habit that he deemed so necessary to appreciate the harpsichord.

4. Fatigue and Economic Functioning

Aside from the objections made by the Philosophe Gascon, there was one other critique that stuck in Castel’s craw for years to come. In 1738, Voltaire took up his pen against Castel’s instrument in Elémens de Newton. Despite the fact that these criticisms were fairly measured

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87 Ibid., 2654-5.
88 Ibid., 2668.
(particularly for Voltaire), Castel vigorously defended his harpsichord against them until his death in 1757. Voltaire dedicated Chapter Fourteen of *Elémens* to the “relationship of the seven primitive colors with the seven tones of music,” and he relied on the theories of Athanasius Kircher and Isaac Newton to argue that there was a rapport between colors and music.\textsuperscript{89} Using degrees of refrangibility, determined by the proportion of the sine of a particular ray with the common sine of incidence, Voltaire (in accordance with Newton) claimed that these proportions are precisely those between the seven key tones in music.

According to Voltaire, the secret analogy between light and sound could lead to the discovery of other hidden relationships in Nature, but when it came to the specifics of Castel’s invention, Voltaire was much less optimistic. Voltaire argued that because light comes to our eyes 600,000 times faster than sound comes to the ears, “the rapid passage of many colors before the eyes seems perhaps destined to shock, bedazzle, and fatigue sight; our eyes might desire rest in order to enjoy the pleasure of colors.”\textsuperscript{90} Voltaire’s objections, while not terribly lengthy, struck at some key ways in which Castel’s theories did not mesh with the characteristics that came to structure the language of sensibility. For one, Voltaire, like the Philosophe Gascon, argued that while the senses had some analogical aspects, they could not be treated as wholly similar. The eyes operated with a different degree of sensitivity than the ears, and certain stimuli, analogous though they could be, fatigued the eyes more readily than the ears. Writing in 1738, Voltaire was in just as much a formative moment of the discourse as Castel, and his theories did not fully

\textsuperscript{89} Voltaire [François-Marie Arouet], *Elémens de la philosophie de Neuton, nouvelle édition* (London: n.p., 1738), 142.

\textsuperscript{90} Ibid., 148.
adhere to the characteristics outlined in the former chapter, either. But his objections make clear that Voltaire based his claims on the existence of a sensory economy, in which the capacity for the stimulation of one sense is not necessarily equal to the capacity of another.

Sensory distinctions were crucial for later participants in the discourse of sensibility. Take, for example, one of Jean-Jacques Rousseau’s main critiques of the ocular harpsichord: “To multiply sounds heard simultaneously or to develop colors one after the other is to change their economy; it is to put the eye in the place of the ear, and the ear in the place of the eye.” In the discourse of sensibility, any adjustment made to one sense would necessarily affect the others: deprivation of one sense would lead to the heightening of another, or attention paid to one would necessarily entail that less attention was paid to another. For Castel, analogy and parallelism took theoretical precedence over any notion of economy; the eyes and the ears could work in perfect unison, never competing with one another, but always matching each other in force and brilliance.

Even though Castel occasionally acknowledged that there were distinctions between types of sensory experience, his theories still rested on the fundamental notion that sensory organs operated in a wholly uniform manner. Castel was so adamant about this analogical reasoning, not least, because of his conviction that all sensation united in a single, harmonious soul. “The eye itself and the ear are not truly two,” he wrote, “and the five senses, were they six and seven as I believe, do not at all escape the fact of the unity of a single and same body

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91 For example, while Voltaire had a notion of a sensory economy, he considered this economy as inherent in nature, not as a relationship fluctuating inversely between the senses.

92 Rousseau, Sur l’origine des langues, 603.

93 Castel, “Suite et sixième…,” 2754.
animated by the same soul. In God Himself the Trinity is in agreement with the model of unity and the principle of all our subaltern and created harmonies. According to Castel, the uniformity of the sensible system demonstrated the uniformity of the individual’s body, mind, and soul; the individual and the rest of society; and the individual, society, and God. In an intricate system of matryoshka-like macro- and microcosms, sensory analogies pointed to the presence of the divine. “The soul, at least, is singular,” he continued. “Harmony is also unique… God is very unique though his works are diverse and we are 100,000 who believe in him: there are many men; there is only one humanity.”

Where other writers developed theories that acknowledged the differences between the senses, while still stressing their close relationships to one another, Castel was more interested in eliding those distinctions to make the human soul a singular, harmonious entity. Later vitalist medicine would certainly portray the organism as holistic, but in sensible medicine, it was particularly through these differences that sensibility could be managed. Castel was unwilling to sacrifice the complete symmetry (or as he described it, the “perfect analogy”) that he had established between the senses, instead favoring looking at the senses as a unified, uniform system without economic fluctuation.

Voltaire’s criticisms also relied on the notions of pleasure and pain that were so central to the passional economy. While he did not deny that the connections of colors, like those of sounds, could inspire pleasure, he argued that overexposure to intense sensation would fatigue the viewer rather than stimulating her. Pleasure, once overindulged, would be transformed to

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95 Ibid.
pain. Castel, in a fragment of a later treatise on imagination, shared this perspective, claiming, “All pleasures exhaust, sicken, change into pain when they become too lively or last too long.”97 Yet in his arguments about the harpsichord, he did not support the idea that pain is necessarily detrimental to the organism:

My harpsichord will shock, bedazzle, and fatigue the eyes? And thus, voilà, the perfect pleasure, since the most stupid souls don’t enjoy pleasure until it shocks, bedazzles, and fatigues them….the most piquant pleasures are the most burning and those which exhaust most quickly the measure of our forces in all types of application, attention, possession itself.98

For Castel, any experience of being moved was acceptable, even if the movement caused a degree of pain. The full dose of attention doled out at once, a sensible system shocked into feeling, and the impassioned experience of stimuli—such extremes were the true measure, not only of pleasure, but of life itself, according to Castel. Only in variety and motion could things “take on an air of richness and of life,” and become “capable of at least amusing our mind or our soul.”99 Castel had some notion of the pathological possibilities of sensibility. He acknowledged that pain, shock, and fatigue could “[add] debauchery to vice, libertinage to debauchery…choler to hatred, furor to choler.”100 But ultimately, he was not concerned with the potentially negative results of the harpsichord, suggesting that even if his instrument fell into the category of overstimulation, in some degree this was still a favorable turn of events. Libertines, ignorant individuals, and moral degenerates understood only the most intense pleasures, and if his

97 Louis-Bertrand Castel, “Traité sur l’imagination?” circa 1733, KBR, MS 15755, 18r°.


instrument could offer such pleasures without leading to excess or hatred, then it still offered a positive amusement.

Castel continued this contrary logic, arguing that in fact, it was under-stimulation that led to fatigue, shock, and laziness. “The repose of colors is the requiescat in pace of the soul,” he argued, and this repose of colors, in its failure to move the individual, makes her “shocked, bedazzled, and exhausted and sluggish from labor and work. Nothing is more fatiguing than a pleasure that doesn’t inspire enjoyment [ne joui pas]….It’s a negative pleasure.” Pain, while not necessarily as desirable as pleasure, was for Castel, more closely connected to the soul and life than were indolence, stagnation, and inertia. Any movement, no matter how vigorous, was preferable to immobility, and he insisted, “My harpsichord cannot fail to please, because it is the chase of colors…If the variety of colors pleases, their variation, which is a variety of varieties will thrill us.” This philosophy of pleasure and pain, in which pain is, in itself, a form of pleasure simply because it moves the soul, resonates strikingly with the philosophy of later materialists, particularly that of the Marquis de Sade. Castel, of course, would have abhorred this intellectual affiliation, and Sade would have abhorred Castel’s secondary conclusion, which was that the harpsichord was “the sanctuary of human pleasure, the true vestibule of the true interior sanctuary of celestial pleasures,” in divine service to God. Regardless of these theological divergences, though, one can locate in Castel’s philosophy a number of threads that could be (and were) pulled by later thinkers operating within the parameters of the discourse of

102 Ibid.
103 Ibid., 23v°.
Conclusion

As early as 1725, elements that would characterize later sensationalist philosophy and sensible medicine informed Castel’s work, but he also deviated from many of the tenets that would become central to these fields. Because of the public prominence of the ocular harpsichord and the relative stability of Castel’s ideas over a thirty-year period, it is possible to trace the long-term development of the discourse of sensibility. Through the harpsichord it is possible to understand why and when certain characteristics of the discourse became standard; what alternative concepts circulated; how these alternatives were parsed, used, and ultimately discarded (or considered non-essential); which applications proved most attractive to those who participated in the discourse; and why sensibility was an attractive concept to begin with. By tracing the discourse backward and refusing to limit the focus to the era in which the discourse was primarily operative, one is able to gain a clearer idea of how the discourse gained the later power and scope that it did.

When I say that sensibility was “stable” after the 1740s, I do not mean to suggest that it was a static concept. Indeed, it was highly malleable, and it was accommodated to any number of distinct purposes. However, the responses to Castel’s work demonstrate how, even in the face of all this difference, consensus formed around certain aspects of sensibility. Furthermore, it was through the continual refinement of arguments, statement of new positions, and debates over particular contexts that the discourse was able to solidify. Its constituent elements existed prior to the maturity of the discourse, but it took time for these elements to coalesce and take firm shape. Castel shared many of the social aims and physiological bases of later participants in the
discourse of sensibility, but he did not share their view of the body as a flexible, ever-changing system or of the mind as wholly formed by processes of sensation. Instead, he insisted on the existence of fixed, objective relationships of cause and effect that existed outside the influence of individual subjectivity or idiosyncratic processes of perception. Most notably, Castel’s model of sensibility did not incorporate the concept of economic functioning, and it was on this basis that his theories met the most opposition.

Even if Castel’s harpsichord did not support the economic concept of sensibility, though, it did offer a concrete example of the ways in which ontological realms could be linked. Castel argued that the ocular harpsichord would enhance the links between the internal and external senses, stimulating the mind, the reason, and the eye at one fell swoop.\textsuperscript{104} As a material object, the harpsichord had the power to prove the links between these various aspects of human existence, and it was precisely this power upon which later reformers based their social theories and programs.

\textsuperscript{104} Louis-Bertrand Castel, “Suite et seconde partie des nouvelles experiences d’Optique et d’Acoustique, adressées à M. le Président de Montesquieu, Par le P. Castel, Jesuite,” \textit{Journal de Trévoux} (August 1735, part 2), 1625.
CHAPTER THREE
Castel Redux: Instrumentalizing the Sensible

From the beginning of the *L’Optique des couleurs* (1740), Castel placed utility front and center, stating, “I am above all attached to the substantial and usual colors of Painters, Dyers, and all sorts of Colorists, not wishing for a mere speculation that is of no use for civil society.”¹ A skeptic might question how many artisans were actually willing to read a five-hundred page book on optical physics, but the remainder of Castel’s writings shows that his dedication to practice was, by no means, lip service. As a segue between Parts One and Two, this chapter will highlight one of the most crucial aspects of the discourse of sensibility: its social component. When Castel set out to create the ocular harpsichord, he did not intend it simply as a stunning form of entertainment, an intriguing scientific proposition, or idle philosophy (although he did say that he never expected to be personally responsible for its creation). Even if Castel was a liminal figure in the emergence of the discourse of sensibility, he shared with later *philosophes* and reformers a firm conviction in the power of sensibility to shape the social realm. Those who participated in the discourse of sensibility shared Castel’s social orientation, directing their projects and philosophies toward potential social benefits.

As anyone who has tried to translate theory into practice knows, the application of scientific knowledge to social problems is not a direct and simple process. There are many ways in which knowledge can be applied, and when it is applied, that knowledge often works to redefine the very premises from which you began. In considering how the discourse of sensibility related to social practice, it is important to determine, not only what types of benefits

reformers sought to achieve, but also how the application of sensibility-related knowledge to social problems helped redefine society itself. Castel’s harpsichord may have begun as a thought experiment, but by Castel’s death in 1757, it had grown into a full-fledged material project that commanded a great deal of skill, dedication, and financial investment. Castel and his emulators produced prototype after prototype, and audiences flocked to experience the instrument in person. The ocular harpsichord was a nifty creation, certainly, but novelty alone was not enough to sustain the type of attention it commanded. In the thirty years that marked the transition of the ocular harpsichord from theory to practice, Castel dreamed big and argued that the harpsichord would alter the fabric of society altogether.

Chapter Two focused mostly on refutations of Castel’s theories, but I am confident that Castel would have greatly appreciated it if I focused, at least a little, on the ways in which his claims were praised and accepted. The ways in which Castel’s theories were rejected pointed to the stabilization of the discourse of sensibility, but so too did the ways in which they were accepted, amended, and adapted. This chapter will continue to highlight the ways in which reactions to the ocular harpsichord pointed to the stabilization of the discourse, but the focus will shift to mid-to-late-eighteenth-century reactions, after the discourse had stabilized. Later critiques of Castel’s works demonstrate how the limits of the discourse operated, furnishing a common foundation for debate. Castel’s theories were put to significant practical use in this later period, and in tracing changing attitudes toward his project and sensibility, it is possible to identify a changing concept of society itself.

The Material History of the Harpsichord and its Seven Pleasures

In 1725, writing to his friend M. Decourt, Louis-Bertrand Castel was full of optimism.
He wrote enthusiastically about his “novel” idea of the ocular harpsichord, asking “What can we, by way of art, imagine that is more curious than to make sound visible?”² He explained how he had noticed that many of his predecessors had spoken “poetically” of the comparison of light and sound, but after reading Athanasius Kircher’s Musurgia, Castel devised the “laughable notion” of considering the analogy as true.³ Castel argued that Kircher had, unknowingly, provided “the seeds of discovery,” but the theoretical development of this seed would be Castel’s unique contribution. “I’m not content to affirm and promise,” he wrote Decourt. “I know you insist on having factual reasoning and Geometry.”⁴ Thus the ocular harpsichord was born.

Castel’s original interest in the harpsichord was from a theoretical standpoint, and while he firmly believed that the instrument could be produced, he insisted at the end of his life that he had never intended to be the one to create it. More than thirty years after his initial suggestion to M. Decourt, Castel wrote his patron and former student, the Comte de Maillebois, the following: “Between us, Mr., the Public has overly honored my affair throughout. It has taken it too seriously, gravely, nobly…the thing henceforth became an affair of honor, having always been an affair of science and art.”⁵ As you’ve already gleaned, Castel’s ideas were an overnight sensation, and the popularity of the idea put him on the defensive. Even if he had never intended to create an ocular harpsichord, thanks to the resounding demand from his critical public, Castel

² Louis-Bertrand Castel, “Clavecin pour les yeux, avec l’art de Peindre les sons, et toutes sortes de Pieces de Musique,” Mercure de France (November 1725), 2553. Emphasis the author’s.

³ Ibid., 2557.

⁴ Ibid., 2554.

⁵ Louis-Bertrand Castel, “Lettres du P. C[astel] J[ésuite] à Mr. le C[omte] de M[aillebois]. Démonstration théorico-pratique du clavecin oculaire,” January 1753, KBR, MS 15476, 6v°-7r°. Maarten Franssen has painstakingly pieced together the evidence surrounding the creation of the ocular harpsichord. I will provide its basic contours here, based on my own research, but for another narrative of its material history, see “The Ocular Harpsichord of Louis-Bertrand Castel: The Science and Aesthetics of an Eighteenth-Century Cause Célèbre” Tractrix 3 (1991), 27-33. Given Franssen’s interest in science and aesthetics, he does not discuss the cabinet of colors or the commercial applications of the instrument, which I will treat more fully.
had already produced a model of by 1730. This model operated by means of “colored flips of paper,” which popped up thanks to a spring mechanism attached to the harpsichord keys. Castel reported to his friend Montesquieu in 1734 that he had created another model, and while he did not reveal any details about its mechanics, in 1739, he described his forays with different lighting techniques like rockets, oils, and lanterns, the latter of which he felt had the most promise: “With lanterns above all, it is possible to create marvels with glass, horns, gauzes, taffetas, oiled or, rather, varnished papers.” Lanterns formed the core of the rest of the experiments reported by Castel and his admirers, but Castel repeatedly experimented with different colored materials. Ribbons, crystals, and painted panels were among the variations described over the years, yet none of them seemed to satisfy Castel or his public. “If I had not persisted with too great an idea of Perfection, my clavecin would have been made 12, 15, or even 20 or 25 years ago,” Castel declared.

Before his death, Castel was able to host a couple of semi-successful demonstrations of the machine, and on December 21, 1753, fifty people witnessed its glory, demanding four encores. Castel also reported to his correspondent Rondet that an audience of two hundred had applauded his efforts on January 1, 1754. But generally, over the course of his pursuit, Castel felt that the public had “abandoned him,” leaving him “drowned and confused in the midst and at the mercy of this little, envious, heinous, and malignant rival public, which interest, ambition, and all sorts of small and large passions” had pitted against one “principal object of emulation”:

6 Explanation of the Ocular Harpsichord, Upon Shew to the Public (London: Hooper and Morley, 1757), 2.


his harpsichord. The two main reasons to which Castel attributed his failure were a shortage of money and a lack of technical skills. One author claimed that in the early stages of the instrument’s development, the Duke of Huéscar contributed a thousand crowns to the project, and the Marquis de Maillebois contributed two thousand livres. The Comte de Maillebois served as Castel’s patron in the 1750s, and Castel asked him for 100 louis “to make it perfect” (followed by subsequent demands so that Castel would not go bankrupt). While it’s not possible to discern precisely how much money Castel received and how these funds were put to use, it is certain that he spent a great deal of money supporting his education in various manual trades and the many workers necessary to make his dreams a reality. Castel’s harpsichord required its maker to be conversant in painting, manufacturing, joinery, stringed-instrument production, and ribbon-making, among other trades. Castel wanted his critics to know that the harpsichord was such a long time coming because “having searched for the practical possibility of the harpsichord for 15, 20, or 25 years, I have along the way found or perfected many arts.” In order to do so, Castel made himself into “the assuredly lowly and humble journeyman or apprentice,” and he asserted that he had “been seen for 15 years in the midst of workers.”


12 Franssen questions the reliability of this second piece of information, arguing that it was the Marquis’ son alone that gave financial support to Castel (“The Ocular Harpsichord of Louis-Bertrand Castel,” 31). Either way, the prestige of his patrons was notable, as were the amounts of their gifts.

13 Louis-Bertrand Castel, “Lettre à madame la comtesse [de Maillebois],” 16 March 1753, KBR, MS 20753-20756, 29v°.

14 Castel, “Lettre du Pere Castel, à M. Rondet…,” 150.


16 Ibid.
The embroiderer-cum-caricaturist Charles-Germain de Saint-Aubin included an image of Castel in his *Livre de caricatures tant bonnes que mauvaises* (composed between the 1740s and mid-1770s). The drawing depicts Castel, happily playing his harpsichord, while a clyster syringe shoots a stream of (hopefully) water into the father’s content and oblivious face. James Johnson has explored the greater musical significance of Saint-Aubin’s work and this image in particular, but for the purposes of this book, the most interesting aspect of this image is not Castel, the enema, or the harpsichord itself. It’s the array of tools at Castel’s feet: a painter’s palette, bowsaw, scroll, musical score, set-square, and measuring stick. This motley assortment demonstrates just how correct Castel was when he asserted that the harpsichord required mastery of a variety of trades. The caption below the image reads, “If only they had all occupied their time on the same machine.” While it is not entirely clear who “they” were (and while it is obvious that Saint-Aubin is poking fun at the enema-soaked father), there is a way to read this image that would have resonated with Castel’s self-image. If only others had assisted him in creating the harpsichord, he would not have become such a laughingstock.

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18 The identification of these tools is courtesy of the curatorial commentary provided by the Waddeson Collection.

19 Johnson wonders whether the “they” referred to intellectuals, musicians, or priests, while the Waddeson curatorial commentary interprets the “they” as Jesuits, pointing to Saint-Aubin’s repeated anti-Jesuit sentiments. According to this latter reading, Saint-Aubin wished that the rest of the order “had engaged in such harmless if ridiculous pursuits” (Johnson, 223).
Fig. 4. Charles-Germain de Saint-Aubin, “Que n’ont ils tous Employés leurs tems à la même Machine,” Waddeson Manor Archives 675.302.

Castel deeply resented having to learn the many crafts necessary to produce his brainchild. He wrote in 1757, “25 years ago I received compliments for having said in my mathematics that a single sheet of tin-plate or a single pin was the work of more than thirty hands, even of thirty crafts. Can I make my harpsichord by myself?” Here, Castel foreshadowed the principle made famous by Adam Smith in the Wealth of Nations: the division of labor. Smith’s articulation of the principle maintained that each individual, because of particularities of education, talent, and habit, had a different stock of skills to contribute to society, and it was through this collective pool that society could flourish: “Among men…the most dissimilar geniuses are of use to one another; the different produces of their respective talents…being brought, as it were, into a common stock, where every man may purchase whatever part of the produce of other men’s talents he has occasion for.”


22 Smith, Wealth of Nations, 20. More will be said in Chapter Four about genius, talent, and the division of labor in society.
fact that the public failed to recognize that his talent was for the theoretical knowledge behind
the harpsichord, not for the skills necessary to make it. A properly functioning division of labor,
he argued, could have yielded a working model of the harpsichord—provided, of course, that he
had sufficient funds to purchase the talents of skilled workers.

Castel’s adumbration of the division of labor is perhaps striking, but by the early
eighteenth century, the concept, which was probably drawn from the example of craft
production, was already appreciated in a number of philosophical circles. As Jan Goldstein has
pointed out, Denis Diderot, one of Castel’s most sympathetic supporters, envisioned a similar
division of labor at work in the compilation of the Encyclopédie. He described the project in
1755 as a “society of men of letters and artists, [created] in order to assemble all talents,” an aim
that stood in stark contrast to “the retrograde way the French Academy went about compiling its
dictionary by assuming that all academicians possessed the same, universal knowledge of
things.” In both Smith and Diderot’s formulations, social benefit was derived only from the
division of talents and their proper integration into a more coherent, robust whole. Castel’s early
articulation of the concept points to an emerging social theory, which reformulated society as a
collection of individuals that functioned holistically, like a thriving organism with infinitely
varied functions.

Castel echoed (and in the case of Smith, prefigured), the encyclopedists’ sentiments,

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24 Ibid.

woefully inquiring, “Does one not have the right to call on the Public when one is working for it?” Castel’s assertion that he was working for the public referred not only to the fact that he felt forced into the project, but also to the fact that he had anticipated that the invention would yield many public benefits. From his very first letter to the *Mercure* in 1725, Castel described the social implications of the ocular harpsichord, and this social focus furnished a key point of argument throughout the Jesuit’s writings. By 1753, Castel had systematized and enumerated these potential benefits, placing them front and center in his letters to his benefactor the Comte de Maillebois. Castel professed that his work was “of the greatest consequence for pleasure and for the whole of public utility, perhaps even for the entire state of humanity,” and through the harpsichord, he argued, it was possible to “render the Sciences and Arts diffusible and popular.” Castel ever-so modestly proclaimed, “The harpsichord is going to be like the renaissance of humanity.”

To his mind, this renaissance would derive from seven pleasures yielded by the harpsichord. All of these pleasures had the power, in differing degrees, to contribute to social good, and Castel imagined a world remade through judicious, enlightened sensory experience. Analogical reasoning furnished the basis for Castel’s theories, so it is probably unsurprising that his social ideas also relied upon analogical comparisons. The harpsichord, in furnishing a harmonious music that linked multiple sensory realms, promised social harmony and human

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27 Ibid., 14r°; Louis-Bertrand Castel, “Suite et cinquième Partie de Nouvelles Experiences d’Optique et d’Acoustique: adressées à M. le Président de Montesquieu, par le Pere Castel Jesuite,” *Journal de Trévoux* (November 1735), 2336.


29 Castel outlined these seven pleasures most clearly in MS 20753-56, but these themes were present throughout the entirety of his *oeuvre*.
unity. Difference would give way to similarity; disjunction would give way to peace; and the
seed of poetic language become the flower of rational, cerebral action. For Castel, sensibility (or
its protean predecessor) served as the gateway through which human society could be remade in
God’s harmonious image. Indeed, as you might expect, theology was central to Castel’s
mathematical, physical, and social theories. Considering that seven was considered a holy
number, the fact that Castel identified seven benefits deriving from the harpsichord was probably
far from arbitrary. Sensibility was a concept that lent itself to a diverse array of thought;
Christians, atheistic materialists, and every shade in between drew upon the concept, and
sensibility’s ability to blur ontological lines created subtle and often ironic links between
disparate schools of thought.

The first of Castel’s pleasures was simply “the pleasure of surprise, the pleasure of
novelty,” a characteristic that Castel’s admirers certainly attributed to his work.30 A poet named
Descazeaux submitted a most flattering piece about the ocular harpsichord to the *Mercure de
France*, which aside from proclaiming that “A mortal has lifted the obstacle/That kept our mind
in chains,” also described the rapturous pleasure of the harpsichord: “What torrent inundates my
soul/with the most legitimate pleasures!/Transport excited, enflamed/I don’t form any more
desires/What a rapid stream of nuances! What accord in their differences! For my charmed eyes
what a voice!”31 The novelty of the harpsichord had not even diminished by the late 1750s, when

L[ieutenant] G[énéral] des arm[ées] de S[a] M[ajesté],” 1752, KBR, MS 20753-56, 58v°. The harpsichord was only
the first step of Castel’s new music. He states here that, at least in part because of expense, he had given up the idea
of making an “entire music,” or “sensible” music, (of sound, sight, taste, smell, touch) eight or ten years earlier, but
he still considered it theoretically possible. He also speculated that one could make other instruments of sensible
music, equivalent to violins, flutes, cymbals, trumpets, etc. (Castel, “Lettres du P. C[astel] J[ésuite],” MS 15476,
4v°.)

this time, “transport” could signify passions, ravishment, and ecstasy (*Dictionnaire de l’Académie française*, 1st ed.)
an anonymous spectator wrote in the front of a brochure entitled Explanation of the Ocular Harpsichord Upon Shew to the Public, “The idea of the instrument is something very extraordinary, not to say extravagant.” Visual entertainment may seem like a basic, obvious function of the harpsichord, but culturally, it had a significant value. Spectacle and witnessing were some of the most powerful scientific methods in the eighteenth century, and the importance of vision, even in the sake of entertainment, should not be discounted. Many Enlightenment reformers famously sought to eradicate superstition and make information available to a large public. Spectacle was one significant way to popularize scientific knowledge, and in the eighteenth century, disseminators used more accessible forums and demonstration techniques to engage larger audiences. Furthermore, if experience was the basis of all knowledge, then what could be more important than gaining new, valuable, and beautiful experiences? Visual novelty was the easiest way to make an impact on an individual’s aesthetic, intellectual, and emotional state.

The second pleasure anticipated by Castel was the “pleasure of mechanics and diverse arts.” The challenges presented by the harpsichord’s fabrication had pushed Castel from his ignorance of various trades into “a stringed-instrument manufacturer and ‘cobbler become wise,’” from which he extrapolated that it could do the same for others. (Although, given Castel’s resentment, I’m not sure why he saw it as such a boon. But that’s neither here nor

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32 Explanation of the Ocular Harpsichord, front matter.

33 For more on the popularization of science and scientific spectacle, see Michael R. Lynn, Popular Science and Public Opinion in Eighteenth-Century France (Manchester: Manchester University Press, 2006), esp. 15-42.


35 Ibid.
there…) In order to find the hidden liaisons of nature and to bring them to fruition, new
technologies needed to be created, and the boundaries between various crafts had to be
overstepped. Pushing the limits of known knowledge also meant pushing the boundaries of
known technologies.

Castel’s third anticipated benefit was the “pleasure of optics and acoustics, the pleasure
from which utility would spring forth into diverse arts, painting, music, dyeing…embroidery,
inlaying, diverse products and manufactures.” Textile production and painting were two
industries that Castel thought would benefit, in particular, from his discoveries, and in large part,
his theory that color should be treated as a substantial rather than luminous phenomenon was
rooted in his belief that experiments with dyes, paints, and thread could be more useful. In the
1740 *L’Optique des couleurs*, Castel outlined the theory behind his music of colors, which would
form the basis of the ocular harpsichord and its sister innovation: a “Universal Cabinet of Color
and Chiaroscuro.” This cabinet would contain a lengthy ribbon made out of 144 other ribbon
pieces, dyed according to the colors and tones that Castel had identified in his theory of color
music. According to Castel, the “practical use of these colored bands…[was] to form a sort of
chromatic cabinet” that would allow the evaluation, comparison, and taxonomization of color.
Each one of the samples would bear a tag noting its name, degree of coloration and chiaroscuro,
and the amount and type of dye necessary to produce it, which meant that it could be easily and
systematically reproduced. This cabinet would charm both the eye and the mind, and it offered

36 Ibid., 59r°.  
37 Castel, *L’Optique*, 345.  
38 Ibid., 315.  
39 Ibid., 323.  
40 Ibid., 331-332.
the possibility, not only of standardizing the production of color, but of discerning new colors, determining the relationships between them, and replicating the colors of nature more precisely.\textsuperscript{41}

One of the foundational theories behind both the ocular harpsichord was Castel’s conviction that “Color and chiaroscuro are things with sensible, palpable laws, and in their highest theory, purely affairs of arithmetic and consequently common practice.”\textsuperscript{42} Just as music had been standardized, so too could the arts of painting and dyeing, and through his harmonic textiles, Castel hoped to be able to improve commerce and the arts in one fell swoop. While he recognized that “to be skilled at painting it is not necessary to be skilled in geometry,” Castel maintained that knowing the geometric rules behind color could still be immensely profitable for painters and other trades that dealt with color.\textsuperscript{43} Sarah Lowengard has investigated the relationship between color science, technology, and craftwork in the eighteenth century, and she argues that because “progress and improvement suggested desirable increases in goods as well as knowledge, the real and abstract problems of economies were an appropriate topic for institutional investigation and support.”\textsuperscript{44} Men of science, government officials, and men of science shared a common interest in improving artisanal production, and Lowengard shows that they often collaborated; artisans borrowed scientific theory, and theorists like Castel oriented their scientific concerns toward practical applications.

The textile trade, with which Castel was so concerned, was no small matter for

\textsuperscript{41} Ibid., 335-344.


eighteenth-century French commerce. Indeed, Lyons had a reputation for high-quality, fashionable silks, and as the preference for the damask and velvet fabrics of Amsterdam lost traction in the 1720s, French silk became a pan-European favorite.\textsuperscript{45} The success of the Lyons trade was based, not in their ability to sell at the lowest prices, but their ability to sell a desirable array of fashionable designs. This success was based on the premise that French innovations had to be both rapid and appealing in order to stay ahead of English competitors.\textsuperscript{46} The growing practice of sale by \textit{échantillons} (sending out pre-production samples) gave competitors three additional months to emulate, and in certain cases steal, French designs, and textile producers in England, Holland, Berlin, Valencia, Venice, and other European markets found a great deal of success imitating the colors and designs of Lyons fabrics.\textsuperscript{47} In order to stay at the top of the textile heap, France had to innovate more quickly than their competitors could.\textsuperscript{48} Castel’s dream of a streamlined, standardized, aesthetically pleasing system was not simply the product of a Type-A personality longing for order. It was an economic intervention that drew on the power of science to improve the speed, precision, and appeal of French artisanal work, and consequently, the power of French political economy.

Castel’s fourth potential pleasure was that of physics. On a basic level, it is evident how the ocular harpsichord contributed to knowledge of physics. Castel developed the instrument in conversation with Newtonian optical theories, and he took great interest in the vibrations caused by stimuli. The physicist father claimed that he was building on pre-existing notions of the analogy of sound and light but pushed them further by considering “the action and reaction of


\textsuperscript{46} Ibid., 42.

\textsuperscript{47} Ibid., 51; Ibid., 45.

colors on each other, on sounds, and on our soul.”49 The analogy of sound and light meant that the same physical principles could be applied to both, and those principles revolved around relationships of action and reaction. The ocular harpsichord was the clearest materialization of Castel’s physics, but the principles behind it ran through Castel’s entire oeuvre. Castel posited a universal physics, whereby everything could be subjected to a set of physical principles. In his words, “Rest combined with movement forms the natural force of everything.”50 And when Castel said “everything,” he meant everything. In a 1754 document entitled La guerre reduite en art et en règle, which was dedicated to the Prince de Conti, Castel argued, “War is movement. The fixed and static point of peace gives it order and rule.”51 Likewise, music was “a concert of movements,” and the soul loved “the movement that reassured its existence,” which was the result of harmony.52 Castel described the movement of colors as the vital force of the soul, going so far as to argue that movement of colors could also inspire the movement of the passions: “…the green that corresponds to re, will without a doubt make [the mocking moderns] feel that this tone of re is natural, bucolic, laughing, pastoral. The red that corresponds to sol, gives them the idea of a warring, bloody, choleric, terrible tone….”53 Music, war, painting, the senses, emotions, and ideas could all be reduced to a series of movements. The harpsichord was the material embodiment of all these movements, and Castel wrote the Prince de Conti, “I therefore want it to be well known that the harpsichord was the true flower of the art of War, of the


50 Louis-Bertrand Castel, “La guerre reduite en art et en règle, par principes géométriques et comme par raison démonstrative,” 1754, KBR, MS 20753-56 148vº.

51 Ibid., 140rº.


While Castel would abhor the idea that he shared philosophical affinities with the later radical materialists of the French Enlightenment, his work relied on tenets that, in light of those later philosophies, seem rather familiar. In Castel’s worldview, movement affected all aspects of being, and as with later concepts of sensibility, Castel trusted that an individual’s psychology was intimately connected to the physical world.

The fifth pleasure described by Castel, however, ran contrary to the credos espoused by the later materialists who made use of his work: that of metaphysics, which he explained as a better understanding of the organization of the world and its relation to the divine plan of God. The rainbow was for Castel the ultimate sign of God’s promises to man, and “God surely enjoys the contemplation of his work the rainbow.” Haunted by the accusations of the anonymous Philosophe Gascon, Castel emphasized in his later writings the ways in which his project could be understood as having a natural theological intent. One of the points leveled by the philosophe was that nature had been perfectly created, and that rather than follow nature, Castel wanted “to correct that which had been made.” Castel insisted that it was not a correction, but only an imitation, “nothing more than a simple copy of the rainbow” and its “manifestation, the development of the rainbow’s play.” As the last chapter showed, Castel himself struggled with some of the materialist implications of his work, and he was emphatic throughout his career that he was still a “spiritualist,” whose work would both benefit society and draw man closer to God. Castel trusted that the play of colors allowed one to marvel at nature, understand God’s

promises, and reacquire some of the innocence of Adam.\textsuperscript{58}

The sixth pleasure was that of harmony and music. Castel, believing in the universality of harmony, pleasure, and movement, argued that “there are many harmonious bodies; there is only one harmony,” and similarly, “there are many men; there is only one humanity.”\textsuperscript{59} His project was “to join two musics in the same instrument,” which would help bring man closer to the universal harmony (and universal humanity) that God had instilled in the world.\textsuperscript{60} The ability to hone harmony was the key to the system, since harmony perfectly embodied the unity of the universe. In Castel’s words, “Harmony is a good, a perfection, an accord, a justice of rapports, a union, a symmetry, a concurrence of sentiments, a concert of movements.”\textsuperscript{61} Music had always been a wonderful pleasure, but Castel felt that it could only be enhanced by the ocular harpsichord, which would appeal more to the soul and to feeling than to the mind and contemplation.\textsuperscript{62} By uniting the music of the eyes and the ears, and bringing them to life in the harpsichord, Castel thought the perfection of harmony could be made even more palpable. “The harpsichord is a practice,” he argued, “it is harmony in person, living, speaking, agitating so much the pleasure of the soul, pleasure of sentiment and even of sensation; it will be superior to that of the mind which is only an ideal pleasure…[it] is all at once real, substantial, corporeal, seizing the whole soul.”\textsuperscript{63} In other words, Castel sought to unite the body, soul, and mind–

\textsuperscript{58} Louis-Bertrand Castel, “Journal historique et démonstratif de la pratique et exécution du clavecin des couleurs, et des découvertes et machines nouvelles qui l’ont fait et perfectionné depuis 27 ans,” 1752, KBR, MS 15746, 1v°-2r°.


\textsuperscript{61} Ibid., 49v°.

\textsuperscript{62} Ibid.

\textsuperscript{63} Ibid.
sensation, sentiment, and pleasure of the soul—through the creation of the ocular harpsichord. Through the stimulation of the senses, the soul, mind, and body would all be agreeably agitated, and brought into line in an experience of pleasure.

The seventh and final pleasure was the pleasure of seeing sound and hearing color. Castel argued that through this means, a deaf individual would be able to judge music and a blind individual would be able to judge colors.\textsuperscript{64} While this claim figured centrally in Castel’s arguments from the start, it was not one whose implications he fully unpacked.\textsuperscript{65} As later chapters will show, though, this interest in handicapped individuals played centrally into sensible projects in the Enlightenment. When Castel asserted that there is a single humanity despite the fact that there are innumerable individuals, he was expressing a sentiment that resonated significantly with a larger Enlightenment movement toward a conception of a social whole, in which the body was targeted as the site for the incorporation of the individual into the collective. Through the discourse of sensibility, this concept of the social whole became much more clearly articulated, and the blind and deaf were certainly among those individuals who were significantly affected by sensibility-oriented projects.

Generally speaking, historians have agreed that the eighteenth century marked the development of new concepts of both society and individualism. Daniel Roche has argued that the Enlightenment witnessed “the emergence of a new conception of man,” which “can be seen in the gradual replacement of the concept of \textit{universitas}, of which living men were merely parts, by \textit{societas}, which simply referred to an association of individuals.”\textsuperscript{66} He charts the “birth of

\textsuperscript{64} Ibid., 50v°.

\textsuperscript{65} Castel, “Clavecin pour les yeux . . .” 2553.

modern individualistic ideology” through changes in the family, the relationship between individualism and the profit motive, and the advent of new types of liberties, claiming that as the signs of individuality proliferated, “growing numbers of people—first men and then women too—acquired new social skills and developed a new perception of vital social sources.”

Relatedly, Daniel Gordon and Keith Michael Baker have shown that the eighteenth century marked a decisive shift in the meaning of “society” and its cluster terms “social,” “sociability,” and “sociable,” when it came to be defined as “the symbolic representation of collective human existence.” In this formulation, “society takes its modern meaning not in opposition to individualism but as its essential expression. Society and the individual are not, in historical terms, fundamentally opposed. Instead, they appear together.”

Castel’s writings and the responses to them provide further evidence for this shift, emphasizing the way in which the individual was implicated in this new concept of society. As Keith Michael Baker has argued, “Virtually all human activities are caught within the frame of this definition, and they appear, above all, as common human activities,” and while society, in its new eighteenth-century form had a totalizing scope, pertaining to all kinds of activities, behaviors, patterns, and morals, it was not only a range of activities that came to be included in this new vision of society. Crucially, there was another totalizing element to this new concept of society: one that pertained not only to activities but also to the individuals included. Where certain individuals or groups of individuals had previously been excluded from the collective, the

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67 Ibid., 519; Ibid., 548. For Roche’s discussion of these changes, see 519-547.


70 Ibid., 102.
new Enlightenment conception of society made possible the incorporation of such individuals into a social field, which could operate holistically, according to the different types of individuals within it. The idea of the individual figured centrally in the Enlightenment conception of society, not in spite of individual idiosyncrasies, but precisely because of them.

This emphasis on individuality became much more pronounced with the further elaboration of the discourse of sensibility, which, for the most part, scrapped Castel’s concept of simple agreement pleasures. Individual fibers, unique forms of stimulation, and singular emotional responses, all operating according to highly variable economies, characterized the later discourse, and this meant that this new concept of society came even more strongly to the fore. The body became one of the most important tools for determining the individual’s place within the social whole. Castel’s theories, based in the simple agreement model of pleasure, did not leave much room open for the operation of non-naturals, but they did exhibit an ardent faith in sensibility’s power to reform society at large. Science, mathematics, technology, art, commerce, sociability, philanthropy, and spirituality all fit within the purview of the ocular harpsichord. Sensible improvement and proper sensory experience had bearing on practically every aspect of human life, and Castel spoke enthusiastically of the social potential inherent in a deeper understanding of the sensory system.

In fact, his optimism may even have been strengthened by the fact that he lacked an economic concept of sensibility. With the economic concept characteristic of the later discourse, sensibility had just as much possibility for chaos, disintegration, and pathology as it had ameliorative potential. But pathology is virtually absent from Castel’s writings. Castel rejected Voltaire’s claims about visual fatigue and denied the fact that overindulgence in visual pleasures could lead to numbed senses and moral torpor. Instead, he insisted that geometrical pleasure was
divinely created and focused on the fact that sensibility and its manipulations could improve society. For Castel, these seven pleasures were precisely that—pleasures. They were unmitigated benefits, not just for the individual, but for society at large.

**Resituating the Ocular Harpsichord within the Discourse of Sensibility**

Castel shared the social orientation of many reformers who made use of the discourse of sensibility after its stabilization, and in many ways, his invention opened the door to practical discussions about the relationship between social good, technology, and sensory experience. The ocular harpsichord, as a material object, concretized sensationalist epistemology, demonstrating and testing its practical limits. The ocular harpsichord did not usher sensibility into social reform single-handedly, but it was as a well-known and hotly contested invention that brought philosophy into the material world before Hallerian sensibility and Condillacian sensationalism developed. As part of the vanguard—and a highly vocal part at that—Castel remained an important point of reference for later writers concerned with sensibility. Most authors who took up Castel’s instrument did so, though, in ways that fit within the discourse of sensibility, and either elided or adapted Castel’s deviations from the discursive norms.

One such writer was the physician Antoine Le Camus, a member of the Faculty of Paris who came up briefly in the first chapter and who figures prominently in the next chapter. In his 1753 work *Médecine de l’esprit*, Le Camus used Castel to argue that the sense of taste “can be reduced into a science as positive as that of Music or Painting.”

He continued, speculating: “Maybe there are only seven primitive flavors in nature, the same as there are only seven colors and seven tones….It would be possible to have in flavors a harmony even realer than that which

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could be formed by the ocular harpsichord.” These statements seem unquestioningly to affirm Castel’s theories of color-music, expanding them to the gustatory realm by way of simple analogy, and they may give the impression that Le Camus shared Castel’s esprit de système. Throughout the remainder of Médecine, though, Le Camus suggested that while each human could reach perfection, there was not a one-size-fits-all way to achieve this goal.73

Castel’s music offered a useful rubric for categorizing, combining, and relating tastes, but as Le Camus pointed out, this system did not guarantee a pleasant experience any more than regular music would. (Seat me at a keyboard, and you will instantly realize that having a musical system does not guarantee a positive auditory experience.) Castel’s theories could work as a guideline, but the experience of pleasure still relied almost entirely on the skill, habit, and practice of the player. In the realm of taste, this meant that a sapid music would offer some basic principles, but the chef was still responsible for creating pleasure. Indeed, Le Camus had high hopes for that pleasure. He was elated that cooking was no longer relegated to “vile servants or to poorly instructed people” and that it “could be exercised by the most noble hands and embellished by the most delicate tastes.”74 By praising the art of cooking, Le Camus was hitching his horse to an already popular wagon. Nouvelle cuisine exploded from the 1730s, and by the mid-eighteenth century, cooking was often treated as an art rather than a craft.75 As the

72 Ibid.
73 Ibid., 1:281.
74 Ibid., 2:83.
75 Paul Metzner, Crescendo of the Virtuoso: Spectacle, Skill, and Self-Promotion in Paris during the Age of Revolution (Berkeley: University of California Press, 1998), 58-61; Rebecca Spang, The Invention of the Restaurant: Paris and Modern Gastronomic Culture (Cambridge, MA: Harvard University Press, 2002), 34-63. Metzner also notes that there was push-back against nouvelle cuisine, stressing that the Encyclopédie, Voltaire, and Diderot all emphasized that cuisine should be predicated on health, not artistic considerations.
fervor for nouvelle cuisine, French chefs, and the art of fine food spread, Le Camus saw the opportunity to systematize the new knowledge and make cooking accessible, not just to elites, but to the public at large. Chefs endowed with sufficient training, skill, and sensible capacity, Le Camus argued, produced knowledge could be “useful to all men.” The judicious application of sensory knowledge meant that a chef’s skills could be maximized and subsequently instrumentalized for public good. Le Camus argued that both talent and pleasure could find their fullest expression in a flavoring system modeled on the ocular harpsichord.

Like Castel, Le Camus dreamed of expanding musical harmony into other sensory realms, but unlike Castel, he did not think that the pleasures of cookery could be determined by specific ratios of pleasure. The music of taste would follow rough guidelines, but the experience of pleasure was ultimately dependent on the chef and the taster. Castel’s theories served as a model for taste-music, but ultimately, Le Camus emphasized that the experience of taste-music would be quite different, depending on the particular physiology, psychology, and skill (or habits) of the individual in question. There was to be no inherently pleasing music, according to Le Camus, but this new art could lead to foods that would be optimal for all sorts of people: “thin or fat people, weak or robust, idlers or those who are easily fatigued, children, young people, old people, girls, pregnant women, women in labor, in short, all men in all circumstances of life.”

As with auditory music, certain individuals could appreciate taste-music better, and there were some harmonies that were more pleasing or well suited to particular people. Where Castel embodied an esprit de système, Le Camus’ more particularized vision of the sensible system

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76 Le Camus, Médecine de l’esprit, 84.
77 Ibid.
embodied a more fluid *esprit systématique*, and his approach to sensibility was much more reliant on the economic variability of the individual body.

Le Camus was not the only person who hoped to expand Castel’s model to taste. In 1755, the marvelously named Polycarpe Poncelet published *Chimie du goût et de l’odorat*, a text that included recipes for various liqueurs, perfumes, and hygienic products. In the introduction to this treatise, called “Dissertation préliminaire sur la salubrité des Liqueurs, et l’harmonie des saveurs,” Poncelet argued against medical practitioners who had deemed liquor unhealthy. Instead, he claimed, they could be used to “transmit an agreeable sensation to the brain,” which, traveling along nerves would “finally make the heart feel through an impression as surprising, I say almost as miraculous, as it is lively and varied.”

In order to orchestrate these pleasures, Poncelet proposed a taste-music comprised of seven flavors:

![Taste scale](image)

Fig. X. Taste scale. Polycarpe Poncelet, *Chimie du gout et de l’odorat, ou principes pour composer facilement, et à peu de frais, les Liquers à boire, et les Eaux de senteurs* (Paris: Imprimerie de P.G. Le Mercier, 1755). University of Chicago, Special Collections Research Center.

Such an analogy was possible, he argued, because “flavors consist in vibrations of salts [that are] more or less strong, which agitate the sense of taste, just as sounds consist of vibrations of the air

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[that are] more or less strong, which agitate the sense of hearing." The pleasure of liqueurs consequently depended on “the mixture of flavors in harmonic proportion.” In this version of the text, Poncelet never directly mentioned Castel, but his theory, which centered on a vibrational model and relied on analogical reasoning, was taken almost verbatim from the ocular harpsichord.

By the 1774 edition of *Chimie du goût et de l’odorat*, Poncelet had, for several reasons, explicitly acknowledged Castel as his inspiration. Le Camus angrily accused Poncelet of stealing the idea, which Poncelet denied vehemently. Poncelet attributed his ideas to Castel and claimed that after learning about Castel’s ocular harpsichord, the idea for a “savory organ” “seemed so natural to [him], that it could successively come to 120 people without being communicated.” He may have acknowledged Castel’s influence, by the time the 1774 version appeared, but Poncelet had also reconsidered the theoretical apparatus surrounding the entire project, and his claims departed from Castel’s framework. Colors, he argued, do not hold interest in themselves; they are only appreciated because of the things to which they adhere. In contrast, flavors and sounds “affect the soul immediately by themselves, and independent of the causes that produce them.” Sound and taste could not be entirely equated, given that sonic vibrations had to move through air, where gustatory salts were not as well disposed to carrying vibrations. Furthermore, hearing was an isolated sense, whole unto itself, where taste and smell shared many of the same

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79 Ibid., xviii-xix.

80 Ibid., xviii.


82 Ibid., xxxi.
membranes, meaning they were integrally connected, both in terms of function and physiology. In other words, Poncelet objected to Castel’s reliance on a model that equated the operations of diverse organs. Instead, he claimed, it was necessary to consider the various substances through which vibrations had to pass, the specificity of the organs, and their interrelation with one another in order to fully understand the sensible system. Poncelet concluded that because it was “purely mechanical,” the ocular harpsichord could “produce only the weakest effects in the soul.” Just as Castel had once described Athanasius Kircher’s work as holding the “seeds of discovery,” Poncelet intimated that Castel’s work held the germs of important ideas, but the development of these ideas was lacking. Poncelet’s elaboration on Castel’s work stressed the economic functioning that was characteristic of the discourse of sensibility, favoring a model in which physiological difference and subjectivity played key roles in aesthetic perception.

In the 1755 version, Poncelet closed his dissertation with the remark, “I have reported to my best knowledge all that I know about the salubriousness of Liqueurs and on the harmony of Flavors,” but by 1774, he emphasized all of the knowledge that he had gained by experimentation. He reported constructing a small buffet with two bellows and a series of acoustical tubes, alongside which were a series of phials filled with liqueurs that represented the primitive flavors. Pressing a key would uncork the bottle and trigger a mechanism that would let the liqueurs flow into a reservoir placed at the base of the phials. He admitted that he had not been scrupulous enough in choosing the liqueurs for the organ, instead picking things that he knew would taste good together. Despite this somewhat flawed method, Poncelet acknowledged

83 Ibid., xxxiii-xxxiv.
84 Ibid., xxxi.
85 Poncelet, Chimie du gout, xxv. That exact sentence changed to “I have faithfully reported all that experience taught me regarding the salubriousness of Liquors and the harmony of Flavors” (Poncelet, Nouvelle chymie, xl).
that it had brought him to a crucial conclusion: there is no precisely simple tone.\textsuperscript{86} While pleasure and knowledge could still be gained by these experiments, they were not to be viewed as perfect embodiments of nature. Rather, they were models and tools, and it was through experimentation that one could draw nearer to truth.\textsuperscript{87} In addition to adding large sections centered on experimentation, Poncelet also made minor stylistic changes, such as altering the word “artists” to “inventors,” when referring to those who worked with ideas similar to his own. Poncelet’s emphasis on experiment and observation of Castel’s imperfect analogies again indicates the shift toward an esprit systématique rather than an esprit de système. Whether knowingly, Poncelet acknowledged Rousseau’s objections that these instruments of double-music took reason into account more than experience.

Like Le Camus, Poncelet focused much more in this later work on the role of the particular practitioner. If one simply banged on the keyboard, the liquid in the reservoir would be “detestable,” having no internal accord and, like the music that produced it, consisting only in dissonance.\textsuperscript{88} But “if one touched the keyboard knowingly…the liqueur found in the reservoir would be admirable.”\textsuperscript{89} Castel, in his discussion of habit, did leave open the possibility that certain individuals would be able to produce better music, but this was not the emphasis of his theory, which centered much more on the harpsichord’s universalizing effects. Similarly, Poncelet’s 1755 treatise made no mention of the individual who would play the taste organ or of the necessary qualifications for producing pleasing music. The 1774 version, by emphasizing the need for a person who had been properly educated and who was properly attuned to pleasing

\textsuperscript{86} Ibid., xl.
\textsuperscript{87} Ibid., xxxix.
\textsuperscript{88} Ibid., xxxviii.
\textsuperscript{89} Ibid., xxxviii.
harmonies, resembled more closely the analysis offered by Le Camus, where the possibilities of the music still needed to be expertly handled, and their perception and production was dependent on individual particularity.

In short, while these post-1750 texts adopted Castel’s theories about the possibility for other sensory musics, they diverged from his depiction of pleasure adhering to fixed vibrational ratios. Instead, they favored a model that resembled that described in Chapter One: an experimental model that emphasized the specific, different interrelations of sensory organs and stimuli and the particularities of the individuals creating and experiencing these musics. That said, these two writers shared Castel’s immense faith in the practical application of these theories. Their descriptions of multi-sensory music centered on questions of social utility, pleasure, and the systematic gathering of sensory data, and the instrumental possibilities of these musics was never far from focus. Everyone who wrote on the ocular harpsichord incorporated some sort of social theory. These social theories were often dissimilar, yet all writers seemed to agree implicitly that the senses and society were intimately bound. Where Castel’s social theory rested on the premise that “there are many men; there is only one humanity,” Le Camus and Poncelet may have amended his statement to something more like, “there are many men who can be integrated into humanity, each according to his skills and talents.”

Denis Diderot, who was fascinated with Castel’s work, reconciled these two social perspectives in his materialist philosophy. Castel was a recurring figure in Diderot’s work between 1748, when the ocular harpsichord appeared in Les bijoux indiscrets, and 1769, when Diderot composed Le rêve de d’Alembert. The invention seems to have endlessly fascinated him, and alongside the aforementioned works, it appeared in several of his Encyclopédie articles.

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Lettre sur les sourds et muets, and in his private correspondence. Diderot and Castel did correspond with each other, at least briefly, but as Lucette Perol has pointed out, Diderot avoided the question of whether the harpsichord could be created, focusing instead on its status as a thought experiment.\footnote{A letter from Diderot dating from mid-March 1751, indicates that Castel had recently written him a letter, and Diderot sent another one to Castel on July 2, 1751. Oeuvres de Diderot, vol. 5, ed. Laurent Versini (Paris: Robert Laffont, 1997), 27; Lucette Perol, “Diderot, le P. Castel et le clavecin oculaire,” in Autour du Père Castel et du clavecin oculaire, ed. Roland Mortier and Harvé Hasquin, Université libre de Bruxelles Groupe d’étude du XVIIIe siècle, Études sur le XVIIIe siècle 23 (Brussels: Éditions de l’Université de Bruxelles, 1995), 89.}

Like most notable philosophers of the French Enlightenment, Diderot was something of an idiosyncratic figure, but his writings do fit within the discourse of sensibility.\footnote{For the clearest articulation of Diderot’s position vis-à-vis sensibility, see Rêve de d’Alembert, in which Diderot adopts a vitalist medical perspective, describing sensibility as a fluctuating economy in which attention, the tenor and vibration of fibers, behavior, passions, pain and pleasure, the sensorium commune, and sensation all play central roles in the development of the individual.} Joining the emphasis on individual particularity expressed by Le Camus and Poncelet with the singular nature of humanity expressed by Castel, the dreaming d’Alembert in Diderot’s Le rêve de d’Alembert opined,

Stop thinking about your individuals and answer me this: Is there in nature any one atom exactly similar to another? No….Don’t you agree that in nature everything is bound up with everything else, and that there cannot be a gap in the chain? Then what are you talking about with your individuals? There is no such thing; no, no such thing. There is but one great individual, and that is the whole.\footnote{Denis Diderot, Rameau’s Nephew and D’Alembert’s Dream, trans. Leonard Tancock (New York: Penguin Books, 1966), 161.}

By acknowledging that every individual is distinct from every other individual, making for infinite variations in nature, Diderot relied upon Castel’s theories to claim that this variation, at its core, represented only a single category: the whole (which was equivalent to nature in this text). The sleeping d’Alembert explained to his listeners, the vitalist physician Théophile de Bordeu and the salonnière Julie de l’Espinasse, “Every animal is more or less a human being,
every mineral more or less a plant, every plant more or less an animal….There is nothing clearly defined in nature….It’s a case of Father Castel’s ribbon…. Yes, Father Castel, it’s your ribbon…."

While Castel ultimately sought to systematize color just as sound had been systematized, his theory rested on the notion that there are infinite tones and colors, which could then be broken down into discernible, manageable units of analysis. It was this element of Castel’s theories that most fascinated Diderot, and for the philosophe, Castel’s harpsichord and cabinet of colors were perfect for illustrating how human categories and the infinite combinations of nature could coexist. Castel himself had argued that humans, animals, minerals, and plants shared their roles in the “concert of nature,” refusing the Cartesian notion that animals were purely mechanical and insisting that they, too, contained anima. The claims made by Diderot and the naturalist Louis Jean-Marie Daubenton in the Encyclopédie article “Animal,” do not seem to be too far removed from Castel’s convictions: “The universe is a single and unique machine, where everything is connected, and where beings are elevated above or sink below each other by imperceptible degrees, such that there is no gap in the chain.” Indeed, it was Castel’s Cabinet of Colors that furnished their inspiration for this model of nature. They argued, “The colored ribbon of the famous Father Castel, Jesuit, where from nuance to nuance, one passes from black to

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95 Louis-Bertrand Castel, “Réponse du P. Castel jésuite et académicien de Rouen, de Bordeaux, de Lyon, de Londres, etc. aux objections anonymes contre sa nouvelle méthode pratique d’apprendre la musique, chant, composition, et exécution,” [after 1754], KBR, MS 15744, 51r°-52v°, 57r°-v°.

96 Ibid., 52r°.

white without perceiving it, is the true image of the progress of nature.”

Diderot was more of a theorist than a practitioner, but Daubenton used this Castelian conception of nature in his 1760s and ‘70s efforts to improve French sheep. In 1766, the Bureau of Commerce tasked Daubenton to find ways to free France from its dependence on English and French wool. Daubenton reported that more than twenty-five million livres tournois were leaving the country annually before merino sheep were introduced to France. According to Emma Spary, Daubenton’s investigations “privileged the relationship between conformation and fitness to carry out one’s role in the economy of nature,” and they focused on breeding, food, climate, and a host of other factors as a means of gradually improving the quality of French wool. Daubenton argued that nature works in imperceptible ways, much like the shifts in Castel’s ribbon. “There is,” he wrote, “in the productions of Nature, a degree of perfection that is beyond the reach of our senses and that we can’t perceive without the use of instruments that make our eyes more perceptive.” With the help of scientific research, instruments, and patience, he argued, it was possible to perfect techniques that would improve the natural world. (In light of this fact, Daubenton suggested that all property owners, shepherds, merchants, and

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103 Ibid., 2.
manufacturers have microscopes.) Gradually, by shifting from nuance to nuance, Daubenton insisted, sheep could be improved and so could the economic and social affairs of the French people. Better wool meant more trade, which meant more money, which meant a better situation for France, which meant a better life for French citizens. Just as Castel’s harpsichord took the smallest essential components of experience as the basis of human improvement, so too did Daubenton’s natural historical conceptions.

Diderot and Daubenton also shared Castel’s perspective that variation and movement formed the essence of human life. In a passage that sounds oddly reminiscent of Castel’s later manuscripts [which had not been written yet, and even if they had, it’s unlikely that Diderot would have had access to them], the encyclopedists waxed rhapsodic about the harmony of the animal’s system: “What rapports, what harmony, what correspondence between the parts! How many combinations, arrangements, causes, effects, principles, which all meet in the same goal...” According to Castel, the succession of all these combinations proceeded, not only through a process of movement, but also one of destruction and decomposition, a principle that was also central to materialism. For instance, Castel claimed that when colors temper each other and efface each other, it’s because “color consists in a certain movement of parts,” and when colors “receive all sorts of contrary movement and cease to shake,” they are

104 Ibid., 6.

105 Daubenton, Instruction pour les bergers, 252.

106 Diderot and Daubenton, “Animal,” 1:470. As an example, Castel argued, “[Colors] mix and unmix, they combine themselves, they match, they contrast, and they present us with all kinds of contrasts and accords, of varieties and variations” (Castel, “Lettres du P. C[astel] J[ésuite] à Mr. le C[ontre] de M[aillebois],” MS 15746, 22r°.

107 Castel’s claims also have a striking counterpart in the philosophy of the Marquis de Sade, who argued that destruction was “one of the chief laws of nature,” and that Nature’s creative vigor could only be sustained by returning material energy to her (Donatien Alphonse-François, Marquis de Sade, Justine, Philosophy in the Bedroom, & Other Writings, ed. and trans. Richard Seaver and Austryn Wainhouse, Philosophy in the Bedroom (New York: Grove Press, 1965), 237-8).
“destroyed.” Similarly, Diderot argued, “Anyone lecturing to the Academy on the stages in the formation of a man or animal need refer only to material factors, the successive stages of which would be an inert body, a sentient being, a thinking being…one who ages, grows infirm, dies, decomposes, and returns to humus.”

The movement of matter, the variation of material forms, and a theory of infinite enchainment formed the central tenets of Diderot’s philosophy, and elements of all these theories could be found in Castel’s notions of color-music. Furthermore, in both philosophies, an image of the social whole emerged in which the individual played her particular role, but ultimately amounted to little more than the totality of the collective. Diderot drew most heavily on the elements of Castel’s philosophy that dealt with the fluidity of the sensible system, matter, and sensation. Yet his discussions of the harpsichord ignored the foundational proposition of Castel’s system: “the entirety of nature is…the art of God.” Castel claimed that the world was composed of infinite nuances, but the benefits of uncovering these nuances were not limited only to utility and pleasure. They ultimately drew man closer to the transcendental truths of God. Contemplating color drew one’s mind back to the promise of the rainbow, uniting the senses was a means of demonstrating the unity of God’s created system, and emphasizing the holistic nature of the world and of society was a reminder the holy union that man could have with God.

Diderot may have drawn upon the elements of Castel’s theories that readily leant themselves to a fluid, materialistic, economic conception of the world, but in doing so, he ignored the fact that Castel himself based these theories on a set of immutable truths: that of God, the unity of

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110 For more on Diderot’s materialism, see Wilda Anderson, *Diderot’s Dream* (Baltimore: Johns Hopkins University Press, 1990).
111 Castel, “Réponse du P. Castel,” MS 15744, 51v°.
creation, and the fixity of pleasure.

**Conclusion**

Louis-Bertrand Castel may not have fit fully within the discourse of sensibility, but as the last two chapters have shown, the responses to his work help illuminate the ways in which the discourse developed. Overall, the works of Le Camus, Poncelet, Daubenton, and Diderot embodied a more fluid approach to the possibilities of harnessing sensibility and its pleasures. Castel’s theories, to use his own words, held the “seed of discovery,” but the seed didn’t gain its full power until sensibility emerged as a more flexible concept that had the power to transcend traditional ontological boundaries. Seed though it may have been, Castel’s ocular harpsichord highlighted the power of sensory experience to reform the world. Castel explained at length how the instrument would open up new social, economic, aesthetic, and scientific possibilities. In doing so, he created an image of a world that functioned according to a kind of division of labor, in which there was “one humanity,” but in which each person had a unique task and set of skills to contribute. Castel’s dedication to the simple agreement model of pleasure limited the types of social claims that he could make; his theories focused more on universality and objectivity than on individual difference and talent. But Castel’s work still alluded to the fact that the potential for perfection rested in the body and that through the manipulation of sensation, the individual soul and society at large could both undergo significant improvement.

Richard Sennett has argued that “new understandings of the body coincided with the birth of modern capitalism, and helped bring into being the great social transformation we call individualism.” The new understandings of the body to which he refers were those based in

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Harvey’s concepts of circulation, mobility, and freedom, and Sennett argues that they had massive effects on urban planning and notions of social efficiency. Circulation was not the only—and perhaps not even the dominant—bodily concept that opened the door to new social and economic configurations. The concepts of sensibility and society were inextricable from one another, and the manipulations of the individual body and individual experience, often held the keys to greater social and economic good. Through the simultaneous and reciprocal linking of mind, body and soul; animate and inanimate; large- and small-scale structures; experience and perception; and the individual and collective, sensibility furnished a powerful instrument for remaking society. These last two chapters have, hopefully, given you a stronger sense of why sensibility was a discourse uniquely suited to Enlightenment theories of social reform. My object in the next section of the book is to explore some concrete sites in which the discourse operated, and to show, more specifically, what kinds of social visions it enabled.
PART II: INSTRUMENTS

CHAPTER FOUR

All that is Pleasant and Useful:
Regimens of Talent and Political Economic Improvement

In a medical thesis entitled “Physical, Political, and Moral Education,” the Montpellier-trained physician M. de Saint-Amans argued that “the benefit of society exists in the measure of talents and virtues that it procures.” According to Saint-Amans, talent could come in several forms: the “ideal talent” of those willing to accomplish great acts resulting in glory (like a military hero), the “real talent” of those with “small, useful talents that do not involve great difficulty” (like a worker), or the “real talent” of those with “very useless talents that are, however very difficult to acquire” and which provide pleasure (like a dancer). In all three scenarios, talent was forged from “the triple combination of our interests, needs, and dispositions.” Talent was the basis for a person’s status as a political and moral actor and the guarantor of collective well-being, ultimately furnishing “all great goods.” Self-interest drove the use that individuals made of their talents, but talent’s judicious exercise was a social responsibility. According to Saint-Amans, “Every man owes society the employment of his talents, given that their acquisition comes to him only from society itself.”

As a major source of utility, pleasure, and social good, talent became one of the primary targets of sensible manipulation. Fueled by the prospect of new forms of individual and social

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1 Saint-Amans, M. de, “Extrait d’un ouvrage manuscrit sur l’éducation physique, politique, et morale,” Archives nationales [hereafter AN], M 852. This manuscript is found in a sub-folder labeled “Thèses de médecine soutenues a Montpellier en 1641-1726-et 1727 etc., XVII-XVIII s.” I have been unable to locate the precise date of this manuscript, but it likely dates from the early eighteenth-century.

2 Ibid.

3 Ibid.

4 Ibid.
alteration, many Enlightenment reformers sought physical regimens that would optimize individuals’ artistic, manual, and intellectual capacities. These regimens of talent targeted individual bodies, but their creators sought larger social and political goods like economic growth, the advancement of the arts and technology, and favorable international standing. Through specific forms of sensible alteration, the individual contributed to social good by himself becoming a social good. His (or her) talent formed a part of the wealth and resources of the kingdom, and reformers deemed these talents necessary for the flourishing of French society, across all economic levels.

**Connections Between Animal Economy and Political Economy**

As Chapter One described, the famous naturalist Linnaeus relied heavily on the concept of an economy of nature in order to express the interrelation of disparate elements within a functioning whole. To this point, I have been using the term “economic functioning” to refer exclusively to this definition, instead of the more modern notion, which concerns wealth. But as Lisbet Koerner has shown, Linnaeus’ concept of “economy” extended equally to the operation of the natural world and to commerce (and more particularly, to the brand of cameralist economics to which he subscribed). Just as nature had no superfluous elements, Linnaeus trusted that political economy was equally self-contained, and the resources within nature were sufficient to sustain both the physical and political economic body. For Linnaeus, even when the term “economy” applied to commerce, it was conceived, “not as a science of human economic action and behavior, but as a science of natural products and their ‘use’ for humans.”

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In the eighteenth century, political economy and the animal economy were both subsidiaries of the economy of nature, and as such, they operated according to many of the same laws. Margaret Schabas has argued, “until the late Enlightenment, the natural and the economic realms were one and the same,” and “only gradually...did economic theories come to posit and identify an economy as a distinct entity.” Many, if not most, prominent political economic thinkers treated their subjects as a facet of nature, subject to the laws of physics, movement, and equilibrium, much like those at play in the human body. François Quesnay, who was one of the key members of the economic group now known as the Physiocrats, devoted the majority of his years, not to economic tables and discourses on agriculture, but to the study and practice of surgery and medicine. Scholars have demonstrated just how fluidly Quesnay’s ideas on the animal economy bled into his vision of the body politic. The circulation of goods, the flow of currency through veins and arteries, the landowners who serve as the heart of the system—many of Quesnay’s political economic ideas shared an analogical relationship with their physical counterparts. Similarly, the chemist Lavoisier brought his devotion to quantitative measurement to his ideas for fiscal reform, and reciprocally, he “imported notions of consumption, production,

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and exchange into his study of the ‘animal economy.’”

Jessica Riskin has demonstrated the overlap between Physiocracy and natural philosophy, particularly in the realm of electricity, and Philippe Steiner and Gilbert Faccarello have described two strains of political economic thought in the second half of the eighteenth century that could be described as having a “sensualist point of departure”: the “normative sensualism” of François Quesnay and the “sensualist political economics” of Turgot, Condorcet, and the later works of Condillac (most notably, *Le commerce et le gouvernement considérés relativement l’un à l’autre* (1776)).

It was perhaps Rousseau, though, who most clearly drew the links between the animal economy and commerce in his “Discourse on Political Economy” (1755):

The body politic, taken individually, can be considered to be like a body that is organized, living and similar to that of a man. The sovereign power represents the head; the laws and customs are the brain, source of the nerves and seat of the understanding, the will and the senses, of which the judges and magistrates are the organs; the commerce, industry and agriculture are the mouth and stomach which prepare the common subsistence; the public finances are the blood that is discharged by a wise economy, performing the functions of the heart, in order to distribute nourishment and life throughout the body; the citizens are the body and members that make the machine move, live and work, and that cannot be harmed in any part without a painful impression immediately being transmitted to the brain, if the animal is in a state of good health.

Here, the social body was subject to the same forces as the physical body; pleasure and pain found their way to the sensorium commune, and just equilibrium in the internal rapports of the

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various parts of the body made for a functioning sensible system. A healthy social and political body—with an animating force and smoothly operating internal and external senses—closely resembled an individual physical body in which sensibility was fine-tuned.

In Rousseau’s schema, the unity of the social body was maintained by the resources of nature; the lifeblood of finance; and the sustenance of commerce, agriculture, and industry. Together, the “reciprocal sensibility and the internal coordination of all the parts” created a life and “self common to the whole.”

In the animal economy, sensibility provided the means for the connection of the physical and moral; in Rousseau’s political economy, it provided the link between the individual and the collective, or what he called “the moral being” of the body politic, the general will. In the passional economy, desire and aversion united to achieve the most fundamental goal of the animal economy: self-preservation. Likewise, in Rousseau’s social-sensible system, the general will (a unity of desire belonging to the collective), “always tend[ed] toward the conservation and well-being of the whole and of each part.”

Eighteenth-century authors relied heavily on devices of simile and metaphor in their descriptions of these relationships, but the overlaps between these various economies should not be thought of as simple rhetorical devices. (Although, as Arjo Klamer and Thomas C. Leonard have argued, metaphors should not be ignored or considered insignificant.) Nor were they haphazardly formulated, such that a rough analogy would do. Just prior to the above analogy of the animal economy and political economy, Rousseau objected to the willy-nilly comparison of public

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13 Ibid.

14 Ibid.

economy (that of the state) and the private economy (that of the household), whose origins he attributed to “the odious system” of Robert Filmer’s *Patriarcha* (1680). “Even if there were as much similarity between the state and the family as many authors would have us believe,” he opined, “it would not follow as a consequence that the rules of conduct proper to one of these societies would be suitable to the other.”

Plus, remember how indignant Rousseau was about what he considered to be sloppy analogies in Castel’s work. Metaphorical though the language might have been, Rousseau understood the linkage between the political economy and animal economy to be written into nature itself.

The term “economy” derived etymologically from Greek *oikos* + *nomia* (“house law”), or the management of household resources. Within a domestic economy, it was necessary to apportion resources, maximize their utility, and judiciously govern the household for the good of the whole family. Within the natural economy, resources and their judicious application just as crucial. Their proper management ensured that the body (whether it be political, social, or physical) could be kept in a state of perfect health. Emma Spary has noted this tendency toward “a resource-based account of natural productions,” particularly in botany, where “[treating] the natural world as a set of resources entailed the commodification of plants and other natural productions, their conversion into the raw materials of profitable transactions.”

By following Spary’s cue and thinking of “economy” not just as a system of production and consumption, but as a system devoted to the management of resources, the relationship between the natural, bodily, and political economic systems becomes significantly clearer. Understood to draw on a

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shared set of resources, these economies had a relationship deeper than simple analogy; they were interpenetrative. The natural world, in this light, was directly responsible for producing the resources that would support and sustain the political economy as well as the animal economy. Internal movements and the intervention of the non-naturals provided for the needs of the physical body, while the internal movements of the political economy and the various resources it involved provided for the needs of the social body.

Political economic theorists vigorously contested the ideal source of value. Land-loving Physiocrats did not share the affection for trade held by advocates of *doux commerce*. Cameralists like Linnaeus would have held little truck with proponents of *laissez-faire*. But these theorists all agreed that that nature was bountiful, and that nature’s resources—of one sort or another—formed the basis of a healthy economic system. These resources were not limited to material objects. Indeed, many reformers insisted that nature had been quite generous with the resources available within society itself. In the *Encyclopédie*, Diderot defined “Rustic economy” as “the art of knowing all the useful and lucrative objects of the countryside…and withdrawing the greatest possible advantage.”18 Having the right kind of knowledge meant that a person could conform more “to nature, to health, to the extent of useful knowledge, the elevation of the mind, the simplicity of manners, the taste for good things, virtue, public good, honesty and good sense.”19 Making the most of nature’s resources also meant making the most of the resources within one’s own body and one’s own mind. Diderot continued, “This manner of enriching oneself has a prodigious extent: it is a tribute imposed on all the beings of nature.”20 The

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19 Ibid.
italicized truly portion brings Diderot’s point home. If “all the beings of nature” have the power to be useful and enrich lives, man himself counted among those beings. Humans were not exempt from the responsibility to yield social advantages. They, too, were resources to be maximized.

By 1757, Louis-Bertrand Castel had insisted that in order to bring the arts, sciences, industry, and society to their full potential, the division of labor was necessary. It was improbable, and to his mind injurious, to assume that a single individual could master all skills. The concept of society that emerged as part of the discourse of sensibility made the division of labor even more prominent. Reformers recognized that talents depended, in large part, on an individual’s experience, expertise, and education; a uniquely sensible body had unique abilities to offer. Through the “special talents” and “all sorts of abilities” particular to each individual, the universal system of nature was able to acquire its “inner force and secret efficacy.” By maximizing the resources of the animal economy reformers trusted that a well-functioning political economy and social economy could be achieved.

Antoine Le Camus: Systematizing Non-Natural Regimens to Create Hommes d'esprit

Antoine Le Camus (1722-1772) had a long, prestigious career at the faculté de médecine at the generally conservative University of Paris. He was named docteur régent in 1745, professeur in 1762, and the chair of surgery in 1766, and at the time of his death in 1772, the Journal oeconomique reported that “his genius had acquired a great reputation and his frankness,

20 Ibid.

many enemies.”22 The “frankness” to which the *Journal oeconomique* referred can probably be credited in large part to his *magnum opus*, the two-volume *Médecine de l’esprit* (1st ed. 1753), in which Le Camus outlined the various physical ways in which one could “correct, though purely mechanical means, the vices of understanding and will.”23 While the work was generally well received by the public, it was not accepted hook, line, and sinker, as Voltaire made clear with his statement, “Ah! monsieur Camus, you have not written *Médecine de l’esprit* with wit.”24 Anne Vila has analyzed Le Camus’ 1769 edition of *Médecine de l’esprit*, which “established him as one of the chief medical advocates of the vogue of intellectual self-improvement that apparently swept a certain segment of the French population during the 1750s and 1760s.”25 To call Le Camus’ goal “improvement” is to put it mildly; he was a rather optimistic reformer who outlined extensive programs for manipulating the sensible system. According to Le Camus, the most basic alterations had the power to create genius.

When the term “genius” is invoked, the concept of titanic genius that was prevalent in the Romantic era probably comes to mind. One thinks of Mozart, Newton, Einstein, or Voltaire—the singular individuals who possessed an unprecedented degree of talent in their own time and whose works have remained exceptional. Yet the eighteenth-century concept of genius was typically quite different. In the 1694 *Dictionnaire de l’Académie française*, “genius” had three definitions:


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main meanings. The first referred to its classical context, in which a genius was the spirit or
demon that accompanied a man throughout his life. The second use referred to the classical spirit
or demon that was said to have lived in certain places (e.g., the genius of Rome, the genius of the
French people). By the eighteenth century, “genius” in this context often referred to the
particular character of a given place. For instance, in L’esprit des lois (1748), Montesquieu
referred to the “genius of the Romans for the navy,” the “genius of the Romans for commerce”
“the genius of the republic,” “the genius of the despotic government,” and “the genius of the
Tartar nation,” among many similar uses.

The third definition was “the inclination or natural disposition or particular talent of an
individual.” This definition is closest to later conceptions of genius, but it is notable that a
genius, in this sense, did not demand singularity, great intellect, or immense creativity. One
could have a genius for candle-making, bread-baking, or leather-work as readily as one could
have a genius for science, art, or music. Furthermore, one needed not shake the foundations of
science à la Newton to have a genius for it. “Extraordinary” as a qualifier for “genius” only
appeared for the first time in the 1835 edition of the Dictionnaire de l’Académie française. In
the eighteenth-century sense, genius was something that one had rather than something that one

26 Dictionnaire de l’Académie française, 1st ed. (University of Chicago: ARTFL Dictionnaires d’autrefois

27 Charles-Louis de Secondat, baron de La Brède et de Montesquieu, Oeuvres de Montesquieu, contenant
L’esprit des lois livres I-XXII (Paris: Belin, 1817), 310; Ibid., 311; Ibid., 75; Ibid., 221; Ibid., 232.

28 Dictionnaire de l’Académie française, 1st ed. (University of Chicago: ARTFL Dictionnaires d’autrefois

29 The definition had changed somewhat by the 1762 edition of the Dictionnaire, instead reading, “The
talent, inclination or natural disposition for something estimable and that pertains to the mind” (Dictionnaire de
l’Académie française, 4th ed. (University of Chicago: ARTFL Dictionnaires d’autrefois Project), s.v. “génie,”
http://artfl-project.uchicago.edu/content/dictionnaires-dautrefois. (accessed June 13, 2013)). Obviously, this more
closely reflects genius’ later connotations of intellectual singularity, but the other meanings of the term remained.

30 Dictionnaire de l’Académie française, 6th ed. (University of Chicago: ARTFL Dictionnaires d’autrefois
was. Indeed, this was reflected in several of the dictionary’s examples: “he has a genius for
poetry,” “to have a genius for business,” and “he has a great superiority of genius.”31 “To work
with genius” meant to do something “in an easy and natural manner,” and one could “follow his
genius,” “force his genius,” and “do something contrary to his genius,” indicating that these were
not transcendental identifiers, locked permanently at the core of one’s being.32 This third
definition suggests that genius was virtually synonymous with talent, and their connection was
made explicit in the 1787-88 Dictionnaire critique de la langue française.33

According to Le Camus, nature “gives us a particular genius,” and that genius “is
differently modified by climates, which can be regarded as one of the first causes of the
difference between minds, talents, manners, customs, and laws.”34 It was in these first causes that
Le Camus pinpointed the difference between “mediocre understanding” and “happy genius,” and
he claimed that any distinctions were results of the disposition of fibers, the facility of fiber
movement, and the “impetuosity” of spirits.35 Intellectual education had little effect on the
creation of this genius, since it was vain without the proper attunement of fibers and fluids.36 For
Le Camus, genius was the result of non-naturals’ actions on the body, not some sort of innate,
natural talent that privileged certain individuals in an unfathomable way.

31 Ibid.
32 Ibid.
33 Jean-François Féraud, Dictionnaire critique de la langue française, University of Chicago: ARTFL
Dictionnaires d’autrefois Project), s.v. “génie,” http://artfl-project.uchicago.edu/content/dictionnaires-dautrefois.
(accessed June 13, 2013); Ibid., s.v. “talent.” In the article on genius, readers are informed, “Génie, talent. (Synon.),”
and in the article on talent, “the reader is referred to the articles on “genius” and “natural capacity.”
34 Le Camus, Médecine de l’Esprit, 1:180.
36 Le Camus, 1:262.
The necessary relationship between external stimuli and internal effects meant that with the proper administration of the non-naturals, any aspect of one’s “particular genius” could be modified, corrected or amplified. The prospect of sensible manipulation meant that anybody (or any body), no matter how coarse, uneducated, or dull, could be molded and shaped into an individual possessing genius. All men were born tabulae rasae, and “the same dispositions [could] be found in a rustic lover as in a well-educated lover.”\(^{37}\) With the proper application of non-naturals and the proper set of experiences, all men could achieve greatness. The type of greatness depended on the particularities of experience, and according to Le Camus, it was possible to have “a multiplicity of modes of animal spirits and brain fibers, and at the same time an enormous variety of geniuses, characters, and minds.”\(^{38}\)

Many of these particular geniuses could benefit society, but Le Camus tended to focus on the \textit{homme d’esprit}. He was someone “who, prompt in pleasing resources, knows how to hide his faults adroitly, enriches bookstores with his works, truly knows how to season conversations with the salt of liveliness, makes himself desired in all company… does not search for ideas with difficulty, reasons easily, and judges exactly.”\(^{39}\) From this depiction, it is evident that the \textit{homme} was no simple, idyllic country dweller, nor was it someone simply “contented with a sociable spirit.”\(^{40}\) In order to “render themselves properly to the Sciences and Fine arts,” \textit{hommes d’esprit} had to “dispose their bodies so that their brain well provides all the good qualities of which it is capable and creates only a pure, subtle, and temperate nervous juice.”\(^{41}\) According to Le Camus,

\(^{37}\) Ibid., 2:265.

\(^{38}\) Ibid., 2:165.

\(^{39}\) Ibid., 2:51.

\(^{40}\) Ibid., 2:50.

\(^{41}\) Ibid., 2:50.
the proper conformation of organs would lead to clear, perfect ideas, which in turn would lead to proper sentiments, morality, and socially useful ends.\textsuperscript{42} In essence, Le Camus’ physically perfected men would be mentally and socially perfected as well.

Le Camus developed a series of behaviors, adjustments, and lifestyle changes that would help men achieve such genius. He boasted that his “Regimen of Living” was “an incontestable means of either correcting defects of understanding and will, or for having a genius that is happy, easy, and appropriate to the Sciences to which one wants to apply it.”\textsuperscript{43} Le Camus was not being figurative when he described this course of action as a “regimen.” His program was a strict one with little allowance for deviation, given that the balance of sensibility conducive to genius was so delicate. Food had to be “scrupulously examine[d],” thanks to its ability to establish “mental advantages;” sleep had to be regulated according to age, sex, temperament, season, and type of work; certain scented candles could help improve the memory, where others could distract and overstimulate; heavy manual labor had to be avoided in favor of moderate exercise, like gardening and hunting; etc.\textsuperscript{44} Some of Le Camus’ advisements may not seem terribly stringent to a modern reader, but the continual manipulation of all of the non-naturals, taken together, would constitute a rather programmatic existence. The lists of such prescriptions went on and on, covering baths, medicines, drinks, foods, skin creams, clothing, temperature, drugs, sexual habits, light and dark, silence and noise, hunger, and any number of other types of stimuli. This highly manipulable vision of the body made every sensory stimulus a new opportunity to alter the moral and physical human being.

\textsuperscript{42} Ibid., 2:64-66.

\textsuperscript{43} Ibid., 1:374.

\textsuperscript{44} Ibid., 1:308; Ibid., 1:366; Ibid., 2:224; Ibid., 1:348.
The economy of attention was crucial to Le Camus’ engineering efforts. Drawing on the implicit assumption that the economy of attention operated in a zero-sum manner, Le Camus prescribed a calendar that would ensure that specific intellectual tasks received adequate attention. If a person wanted to create “a work that would go down in history,” Le Camus advised,

imagination is the most fecund between the month of March until the month of October. This is the time when nature is richest, when we feel a greater number of sensations, and when we consequently have the greatest number of ideas. From the month of October until the month of March the senses are calmer. This is the time when we can return to our ideas, compare them, and draw conclusions from them. It is according to this principle that I would try only to surrender myself to works that pertain to the imagination in Spring and Summer, while I suggest only to polish and work on those that depend on judgment during Winter and part of the Autumn.  

This two-pronged approach to writing took physiology as its basis. Fibers were tighter in cold climates and consequently resisted sending new impressions to the brain. Winter, then, was an optimal time for the internal senses of reason, judgment, memory, and understanding to take over. In the springtime, the scent of fresh flowers, the brilliant sun, and the abundant noises offered a great deal of external sensory experience, which would necessarily draw attention away from the internal senses. In a sensible system where the mind and body were affected by minute influences, the precise balance necessary to maintain this system was also subject to the tiniest influence. Genius was not a permanent state, ready to be enjoyed once possessed. Instead, it was an equilibrium to be maintained and managed in perpetuity.

Non-natural regimens affected an individual’s physiological makeup and changed the capacity for understanding. In turn, these “combinations of the different parts of understanding,” affected the virtues and the passions, “two inseparable sisters” derived from the desire for self-

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preservation. According to Le Camus, the passions, which could be manipulated through the body, were “surely the true means that drive us to wit [esprit] and genius.” Le Camus acknowledged that other medical writers had recognized medicine’s ability to alter the passions, but he claimed that *Médecine de l’esprit* was fundamentally different because it showed how the passions could “serve the perfection of the mind.” “The passions are neither good nor bad in and of themselves,” Le Camus claimed, but properly developed, they give rise to a certain “complacency with ourselves,” which he called *amour-propre*.

*Amour-propre* generated a person’s desire to make herself more perfect so that she might deserve the regard of others. The individual body, by giving rise to the individual passions, also gave rise to social bonds. These bonds ensured that any benefits gained by sensible manipulation would have ripple effects throughout society. Humans would continually seek to improve themselves to please others, creating a positive feedback loop of progress. Le Camus maintained “that there is no more powerful or certain motive [than *amour-propre*] that makes us eager to embrace that which is increasingly difficult, to force us to cultivate our talents, and to

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46 Ibid., 2:239.
47 Ibid., 2:256.
48 Ibid., 2:255.
49 Ibid., 2:254; Ibid., 2:257. This benign concept of *amour-propre* stands in stark contrast to that of Rousseau, who viewed it as a source of vanity and artificiality, contrasted with *amour de soi*, which is a type of self-love that predated society and that marked an esteem for oneself outside of comparisons with others. It seems that Le Camus is conflating the two types (self-preservational regard for self and social self-love) that Rousseau kept separate. Valentin Haüy, whose educational projects are treated below, also referred to *amour-propre* as a positive force. While Le Camus’ and Rousseau’s specific concepts of self-love do not match, it is still notable that both of them locate the source of social feeling in some sort of individual regard, such that individuality and individual experience gave birth to collective feeling. For more on Rousseau’s ideas of self-love, see Frederick Neuhouser, *Rousseau’s Theodicy of Self-Love: Evil, Rationality, and the Drive for Recognition* (Oxford: Oxford University Press, 2010); Judith Shlkar, *Men and Citizens: A Study of Rousseau’s Social Theory* (Cambridge: Cambridge University Press, 1969); Jean Starobinski, *Jean-Jacques Rousseau: Transparency and Obstruction*, trans. Arthur Goldhammer (Chicago: University of Chicago Press, 1988).

urge us to realize them, and through this means to be useful to others and to the State.”51 Because of *amour-propre*, humans used their talents for the greater good. Le Camus’ emphasis on the regard of others closely resembled Montesquieu’s principle of aristocratic honor, according to which “[ambition] makes all parts of the political body move; by its very action it connects them; and it is thus that each works to the common good, believing only to promote his individual interest.”52 Through a principle of emulation, whereby one sought to earn merit in the eyes of others, the general good would be furthered.

*Amour-propre* was directed at emotional self-satisfaction rather than profit, but nonetheless, it served as the grease on the political economic wheel. Honor, respect, and merit fed directly into utility, which was the ultimate end of the social system Le Camus presented. Men, hoping to be remembered for posterity because of their achievements, used their talents to advance the arts and sciences. Ultimately, this striving drew all of humanity toward “the temple of truth,” and the agreeable and useful knowledge that was gained could be put to economic and political ends.53 John Shovlin has argued, contra Albert Hirschman, that interest was increasingly scorned in eighteenth-century France, and after the Seven Years’ War, emulation and the pursuit of honor became prized counterpoints to egoistic profit motive.54 Shovlin attributes the Gournay Circle of the 1750s and agricultural societies of the 1760s with the idea that emulation could stimulate political economy, and he argues that the concept achieved immense popularity in the last decades of the eighteenth century.55 Le Camus, writing before the onset of the Seven Years’

51 Ibid., 2:259-260.


War, offers an early example of a writer who viewed honor-oriented egoism as the direct source of public welfare. As in Montesquieu, the competition for honor drove the political economic system, but notably, Le Camus adapted Montesquieu’s aristocratic principle to one with universal social application. Just as genius could be the province of every individual—rural or urban, provincial or Parisian, rich or poor, noble or common—so too could the socially useful search for honor.

The physician Saint-Amans, whose writings on talent kicked off this chapter, also referred to honor as a driving social force. St. Amans argued for the abolition of venal offices, and the way that he did so was rather striking. After explaining the different types of talent that operated in a functional society, he claimed that the noblesse de robe who purchased titles were failing to use their talents for the betterment of society. The noblesse d’épée possessed ideal talents, and they were rewarded for these with glory in the same way that real talents were rewarded with riches. Honor, for Saint-Amans, functioned as cultural capital in the most literal sense possible. He argued that glory was heritable property, and moreover, a property that new nobles had not earned and thus could not reinvest in society. Just as Le Camus treated talent as the lifeblood of a functioning social economy, Saint-Amans argued that talents sustained social commerce. But it was not simply social commerce that was improved through the proper execution of talents; economic prosperity was also at stake. For those with titles, honor functioned as economic currency, while for those with “real talents,” money was the necessary

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55 Ibid., 226.
means of reinvesting in the world around them.\textsuperscript{57} For many writers, including Saint Amans, talent held the key to the proper functioning of the social world and political economy.

Le Camus was not terribly specific about the precise nature of the political and social ends he sought, but his general claims about the relationship between the animal economy and larger social goods do shed some light on a number of contemporary political economic claims. In her discussion of the development of laissez-faire economics, Emma Rothschild notes, “Economic life is at the same time a matter of sentiment…Sentiments were feelings of which one is conscious, and on which one reflects. They were also events that connected the individual to larger relationships in which he or she lived.”\textsuperscript{58} Le Camus’ theory confirms the sentimental nature of economic life; pleasure, desire, and love are all bound up in the human impulse for certain useful objects. One could reflect and consciously act upon these sentiments, a fact that would have implications for larger social structures. But crucially, according to Le Camus, the sentimental aspect of economic life was not always a conscious matter, or at least, not one that relied upon reflection. Passions were the instinctual expression of something much more foundational: nature at work in the animal economy, directing the need for self-preservation.

According to Le Camus, the passions are “the desires of conserving one’s being, excited by sensations,” and with pleasure and pain as their natural guides, humans initially form desires and passions based on sensation alone.\textsuperscript{59} Taking cues from Descartes, he argued that, based on whether a particular object pleases or displeases the senses, “we consider this object as harmful

\textsuperscript{57} This argument is doubly interesting when considered alongside recent scholarship on the place of credit in the period. In an economy that relied extensively on debt and networks of credit, it is perhaps not too far off the mark to consider cultural capital to function as economic capital. See Rebecca Spang, \textit{Stuff and Money in the Time of the French Revolution} (Cambridge: Harvard University Press, 2015), 19-56; Clare Haru Crowston, \textit{Credit, Fashion, Sex: Economies of Regard in Old Regime France} (Durham: Duke University Press, 2013).


\textsuperscript{59} Le Camus, \textit{Médecine de l’Esprit}, 1:132.
or useful, and naturally we want that which is useful.” In Le Camus’ work an image emerges of a continuum between the individual passional economy and social utility. Le Camus conflated pleasure and utility, arguing that the self-preservational instinct was the source of both self-interest and the desire for useful objects.

According to Le Camus’ theory of value, the silent motivators of economic behavior were the indistinguishable impulses toward desire and utility. In other words, the comparative worth of a good (or, its exchange value) was intrinsically bound to its use value. Price, from this perspective, would stand as a signal, not only of desire, but also of utility. Furthermore, amour-propre not only facilitated the conservation of the being, but also fostered social love, social desire, and ultimately, social utility, a further extrapolation from the relationship of individual utility and social utility. In Médecine de l’esprit, the individual interest that derived from the animal economy mapped perfectly onto political economy, and sensationalist philosophy provided the guidelines for determining what would yield the most social and economic benefit.

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60 Ibid., 1:133.


62 That is not to say that they were necessarily equivalent, since this scenario does not take into account scarcity or other potential factors. They were, however, integrally related, given the identity that Le Camus drew between utility and pleasure, two significant measures of value. The question of the relation of value to utility was a salient one for many eighteenth-century economists. According to Philip Mirowski, Turgot struggled with the concept of “value” as it related to utility and exchange. He argued that “value” was often, contradictorily, considered both as some intrinsic quality and as an estimation of usefulness (More Heat Than Light, 162). Mirowski claims that “Turgot clearly wanted to escape grounding value in a natural external entity,” a position that led him to the denial of value (Ibid., 162-3).
Le Camus’ utility theory of value was by no means unanimous among political economists, even among those who subscribed to sensationalist tenets.\textsuperscript{63} Just as there was no consensus within the discourse of sensibility about the applications or implications of the concept, there was no single interpretation of its place in political economy. Despite their disagreements, though, the discourse of sensibility lurks behind a great many political economic theories, particularly as it relates to the passional economy and the impulse for self-preservation. According to Liana Vardi, “Quesnay and Mirabeau agreed that all individuals sought their self-preservation and safety and could be persuaded to follow their ‘deepest’ self-interest.”\textsuperscript{64} Quesnay eloquently expressed this position in his *Encyclopédie* article “Evidence,” claiming, “We are continually instructed by the agreeable sensations that we can procure for ourselves and by disagreeable sensations that we would like to avoid.”\textsuperscript{65} The passional economy, as part of “the natural order,” established a correspondence between the body and sensation in which “the rules of our conduct, our interests, our science, our happiness, our unhappiness, and the motives that form and direct our desires consist.”\textsuperscript{66} Similarly, Turgot offered an account of price reliant on utility and pleasure: “the totality of objects necessary to the conservation and well-being of man form…a sum of needs….\textsuperscript{67}” Taken in whole, “It is this use of his faculties applied to seeking each object that yields the compensation of his happiness, and that is to say, the price of the

\textsuperscript{63} To the contrary, Emma Rothschild has argued that “Condorcet was profoundly opposed…to the proto-utilitarian theory of Helvétius and Necker: as an account of human behavior, as a principle of virtue, and as a principle of public policy” (*Economic Sentiments*, 199).

\textsuperscript{64} Vardi, *The Physiocrats and the World of the Enlightenment*, 133.


\textsuperscript{66} Ibid.

\textsuperscript{67} Anne-Robert-Jacques Turgot, “Valeurs et monnaies,” in *Oeuvres de Turgot et documents le concernant* vol. 3 (Paris: F. Alcan, 1923), 87; quoted in Faccarello, 273-274.
Regarding Condillac, Jan Goldstein has noted, “Oddly enough for a thinker once so intensely occupied with the problem of psychological functioning, he never even highlighted the mental apparatus of the individual as an important issue for economic science.” Yet Condillac did espouse a utility theory of value, and considering his political economic claims alongside the economic model of the discourse of sensibility could prove fruitful. For instance, his notion of diminishing returns meshes neatly with the notion that too much pleasure in the passional economy is transformed to pain.

Thanks to the easy connection between individual and social bodies made possible by the discourse of sensibility, economic claims could easily move from one level to the next. Le Camus provided a system in which the microcosm of sensory stimuli and minute physiological processes had a profound effect on the macrocosm of human society, scientific achievement, and the state. His lists of injunctions about food, sleep, and study may seem to have had only the smallest of details at stake, but in the ever-connected worldview of sensibility, it was precisely these small behavioral alterations that would yield large-scale social effects.

**The Maison d’Education of Jean Verdier**

In 1772 Jean Verdier published the *Recueil de Mémoires et d’Observations sur la perfectibilité de l’homme par les agens physiques et moraux*, in which he proposed an educational plan that would lead to “the perfection of the corporal and spiritual faculties, the conservation of the health of the body and the mind, through the application of a physical and

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68 Ibid.

moral regimen.” He insisted that “there are means of making men wiser and more spiritual than they have been up to now,” and that “it is in Medicine that we must seek them.” More specifically, his plan involved an education tailored to the particular temperament and constitution of the student, which would require an instructor to “correct and amplify his plan without ceasing until the structure that was demanded of him has been achieved.” The same year, Verdier’s plan was reviewed in the *Journal oeconomique, ou Mémoires, notes, et avis sur l’Agriculture, les Arts, le Commerce, et tout ce qui peut avoir rapport à la santé, ainsi qu’à la conservation et à l’augmentation des biens des Familles, et c.*, a publication that approached its definition of economy quite broadly, incorporating articles on sensibility and medicine with nearly as much regularity as articles on grain and technology. The plan was well received, and the reviewer encouraged Verdier to put his ideas into action, which is precisely what he did. Verdier announced in 1773, “To make myself useful to my co-citizens, I just opened a *Maison d’Education Physique et Morale* where the education of each of the students will be addressed and executed according to their constitution.”

Le Camus envisioned that his theories would have practical applications, but they were never formally implemented. If anyone followed Le Camus’ regimes, it was their own affair, and sadly, their efforts are lost in the annals of time. But regimens of talent did find an institutional home in Verdier’s *Maison*. The school, which was situated in the same neighborhood as the

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71 Ibid., 215.

72 Ibid., 220. Quoting Verdier.

Jardin du Roi, was dedicated to “the art of forming the organs through the well regulated use of vital agents, the art of configuring the members in the manner most appropriate to the exercise of their functions,” and “to developing each exterior and interior sense, to augment the memory, enrich the imagination, render reflection active.” Verdier insisted on the necessity of a pedagogy that focused on economic medicine, whose “triumph” was the “correction of these constitutions [that led to an eternally sluggish and dolorous life],” and the discoveries of the sensationalist philosophers, “the great geniuses who discovered the origin of knowledge and the mechanics of the senses.” The sensible foundations of Verdier’s pedagogy are evident from the outset of *Maison d’éducation physique et morale*, which the author began with a quotation from Haller: “The mind is that which feels, which represents itself to its body, and by the means of its body, the universality of things.”

Students’ education followed a sensationalist trajectory, beginning with concrete sensory experiences before moving to abstract concepts. Just as Condillac’s statue had to be awakened to the scent of a rose before he could remember it or link other concepts to it, Verdier insisted that sensory experiences were fundamental to the proper acquisition of knowledge. He required students to perform various exercises using “natural measures” with their hands, elbows, and feet. “These exercises,” he argued, “have as their principal object the generation and distinction of sensations and primary [*mère*] ideas, to which all others should refer themselves….Through

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75 Verdier, “Maison,” 15; Ibid., 14.


77 Ibid., 6.
this device not only do the students learn the sciences; they also feel them.”

According to Verdier, it was only through the use of the body that the mind could be refined, and perfectibility was closely tied to the proper use of the sensory organs.

Because each child’s physiology was distinct, Verdier argued that an individualized education was necessary. Contrasting his methods with those of other schools, he stated,

In a class one ordinarily proportions literary exercises according to the abilities of the greatest number of students. If there are among them some whose infirm and delicate organs aren’t likely to sustain the application necessary for this work, they are put off and stay below the level of mediocrity. However with a plan of studies appropriate to their weakness, in giving them the sum of ideas that they are in a state of apprehending without tiring themselves, and in taking suitable precautions, it would be very easy to elevate them above this mediocrity, to which they seem destined.

Verdier outlined a general educational plan that would apply to all students, but in order to facilitate their learning process, he deemed it necessary to supplement this curriculum with elements tailored to each student’s “temperament, defects [vices], the makings of their mind, their purpose [destination], and the intentions of their parents.”

The “purpose” of the students was of utmost importance in their education, and pupils were groomed for specific types of travail littéraire, such as humanist studies, medicine, and education. Verdier considered his school as one “generally…dedicated to literary work,” but he did think that his plan could foster manual and physical talents as well. Such specialized training may not seem like a radical educational step, but it marked an important attempt to channel students from a young age into certain professions or activities that were considered

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78 Ibid.


80 Verdier, “Cours d’éducation,” 12. I leave the French “vices” noted here and below because of its double valence for both physical and moral defects.

better suited to their temperaments, conditions, or physical makeups.

Earlier “channeling” methods existed, given that young men following humanistic pursuits would have eventually studied specialized subjects, but Verdier’s approach differed in a significant manner. Verdier identified the inherent capacities of students and then offered a tailored pedagogy to hone those skills. For example, a teacher at the Maison would not simply assign an aspiring philosopher classical texts. Only if the teacher had determined that the student had a mind capable of succeeding at Latin would the child be “particularly instructed, and in short time [prepared] for the study of Philosophy.”82 That particular instruction would have included specific exercises, dietary restrictions, and schedules that made the student’s mind even more suited for its purpose. Verdier’s educational plan not only incorporated a concept of the division of labor; it also invited the increasing specialization of talent.83 From an early age, children were trained in conformity with particular professions, and their future “purpose” determined the ways in which their bodies and minds were configured.

Like Le Camus, Verdier expected to cultivate the talents of his students through the judicious application of non-natural regimens, and his pedagogy centered on the “six life agents: air and fire, solid food and fluids, excretion and retention, sleep and waking, movements and repose, passions and moeurs… the weather and clothes…”84 Verdier instituted detailed hygienic routines, insisting that in the summer, the children should wake up at 5:30 a.m. in order to fix their hair and wash their hands, face, and mouth. (They were allowed to sleep to 6:00 a.m. in the

82 Verdier, Cours... d’état, 343.

83 Specialization in all fields, but particularly within the medical field, was itself a topic of keen interest in the eighteenth century. See Jan Goldstein, Console and Classify: The French Psychiatric Profession in the Nineteenth Century, 2d. ed. (Chicago: University of Chicago Press, 2001), 55-63.

winter.) Students’ hygienic and gymnastic rituals were “otherwise aided by baths, ointments, and massages [frictions],” and they ate according to dietary regimens that were judged “proper to nourishing them well” and “to forming the best temperament for them.” In order to train the body to optimally receive stimuli, Verdier placed heavy emphasis on gymnastics. Concerning the fifth non-natural (movement and rest), gymnastics was considered “the art of forming the most perfect organization, of developing all the natural gifts…and preparing the organs for the exercise of all arts and métiers.” Students had five or six designated periods for physical recreation each day, and Verdier especially focused on orthopedic exercises that improved the actions and reactions of the heart and blood vessels, established reciprocal rapports between the organs, and created equilibrium between fluids and solids.

It was precisely this balance was that was necessary in order to create a physical constitution conducive to the refinement of one’s moral qualities. Verdier argued that “moral man” derived from passion and sentiment, given that “the passion that accompanies all sensations and all man’s actions has as degrees pleasure or pain, love or hate, and desire or aversion.” All thought, speech, and action were born of these sentiments, and man’s moral condition was directly related to the foundational sentiments of the passional economy. Yet for Verdier, these passions were the endpoint of education rather than their beginning. In order to

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85 Verdier, *Cours...d’état*, 350-351.

86 Jean-François Verdier [Verdier’s son], “Discours sur un nouvel Art de développer la belle Nature et de guérir les difformités, au moyen d’exercices, aidés par les machines mobiles de M. Tiphaine” (n.p., 1784), 10; Verdier, *Cours...d’état*, 381.

87 Verdier, “Discours sur l’éducation nationale,” 6. Verdier’s focus in his earlier works were on the arts and métiers related to statecraft or intellectual pursuits, but in this Revolution-era treatise, he focused more on “the students destined for the art of war,” who were taught to march, jump, carry arms, etc. (Ibid.)

88 Ibid.

89 Verdier, *Cours...d’état*, 274.
determine how best to form and mold a student’s moral qualities, the fibers had to first be shaped because “…the mechanical actions of your organs are not more irrelevant than literary and moral actions; ordinarily deriving from regular or wrong habits, they all tend to perfect or deteriorate your body.”\(^{90}\) Pain, concern, laziness, slowness, numbness, and brute qualities could all be inspired by the improper development of the senses or the agility of the body, and “too much sensibility prepares the organs for overly energetic play,” making the soul feel “pleasures that are too lively and pains that are too biting…Too little sensibility leaves the members motionless, and the mind in torpor that brings out in man the nature of animal stupidity…”\(^{91}\) Through regulated behaviors—down to the last detail, including the best way to chew—Verdier planned to bring sensibility in line.

Verdier, like Le Camus, also paid close attention to the economy of attention. Students learned according to seasonal shifts in order “to direct [their] attention toward their connections with nature and society.”\(^{92}\) It was the instructors’ role, above all, to ensure that students kept their attention trained wholly on their studies: “The first object of the instructors should be to give birth to and maintain the attention of the students….they endlessly recall the organs of their students to good maintenance, and their senses to objects that should occupy them.”\(^{93}\) This attention-focused sensory education was to be “founded on analysis, synthesis, and critique following short, easy, and certain principles,” which in Condillac’s terms would involve “composing and decomposing our ideas to create new combinations and to discover, by this

\(^{90}\) Ibid., 274; Ibid., 271.  
\(^{91}\) Ibid., 266.  
\(^{92}\) Ibid., 343.  
\(^{93}\) Ibid., 373.
means, their mutual relations and the new ideas they can produce.”94 In its most reduced terms, Verdier (and the sensationalists with whom he shared ideas) envisioned sensory education as a means of working from the simplest original ideas to “all the knowledge necessary for economic and civil life.”95 Moving along a chain of simple ideas to more complex ones, students would be able to attain “that which the most knowledgeable men could only obtain with laborious study…” with only “light efforts of reflection.”96 In order to accomplish this more “natural” way of thinking, Verdier considered it “necessary to change in some way the organization of the brain.”97

Thus far, Verdier’s mission may not seem like a drastic departure from that of Le Camus. Yet Verdier’s school did depart from Le Camus’ in one significant way. Verdier oriented his particular institution toward two groups: 1) students who were destined for the top professions and who had need of the deepest and most cultivated education, and 2) weak or deformed valetudinarians in need of special treatment.98 Of the latter category, Verdier focused his attention more specifically on the blind, deaf, mute, lame, and hunchbacked. Verdier’s focus on valetudinarians was remarkable given the traditional status of sensorially variable individuals.99


95 Review of Recueil, JO, 222. Quoting Verdier.

96 Ibid.

97 Ibid.

98 Verdier, *Cours...d’état*, 327.

99 As a necessary sidebar about my choice of terminology, I would like to emphasize that I tend to prefer the term “sensorially variable” to “handicapped” or “disabled” for several reasons. For one, where the other terms could extend to lameness, wounded limbs, or other physical conditions unrelated to the senses, I wish here to specify only those individuals whose senses were directly affected. Secondly, while the term “variable” does highlight some physical particularity, it does not focus on a lack or a negative capacity, like “disabled,” “sensorially deprived,” or “sensorially impaired” would. This rhetorical move is as much for eighteenth-century reasons as for contemporary ones. As this section will show, many Enlightenment debates about sensorial variability tended away from a single-
Historically, such individuals had been both conceptually and actually separated from the rest of society. In the Middle Ages, blindness was often portrayed as the result of parents’ transgressions or a fault of character, and medieval literature often “cast the blind beggar—whose disability symbolized blindness of the spirit and the dimming of intelligence—as a negative character who could be mercilessly laughed at by the public of farces and fabliaux.” Many sensorial conditions were associated with vice, ignorance, and laziness, and thanks to a related series of historical developments, they were also linked to begging.

In the thirteenth century, inspired by a growing spiritual trend that upheld the value of poverty, Louis XI established a hospice designated for three hundred poor blind people from the city of Paris, which came to be known as Quinze-Vingts. Such charitable enterprises recognized the basic humanity of their residents by providing for their basic needs and by establishing a confraternity of individuals with similar conditions. Yet in order to earn their keep, residents of Quinze-Vingts were expected to collect money, which was deposited in the hospital’s treasury, and to collect bread, which was divided between the collector and the master of the hospital. Even though the residents begged with the king’s approval and wore uniforms with a fleur-de-lis insignia, the fact that they were housed in specialized institutions and were

minded focus on “lack,” instead focusing on ways to understand and make the most of readjusted sensoria. That said, I will sometimes use the terms “handicapped” and “disabled” in an attempt to be consistent with the terminology of the relevant historiography. For more on the concept of “variability” instead of disability, see Chris Mounsey, “Variability: Beyond Sameness and Difference,” in The Idea of Disability in the Eighteenth Century, ed. Chris Mounsey (Lewisburg, PA: Bucknell University Press, 2014), 1-30.

100 Zina Weygand, The Blind in French Society from the Middle Ages to the Century of Louis Braille, trans. Emily-Jane Cohen (Stanford: Stanford University Press, 2009), 16. In order to keep the scope of the analysis more manageable, this chapter will focus primarily on the blind, with only occasional references to other variable sensorial states. There were a number of similar initiatives on behalf of the deaf, mute, and paralyzed as well. Paralysis will be treated at more length in Chapter Four.

101 Weygand, The Blind in French Society, 18-19. The name derives from the medieval system of numbering by twenties. 15 x 20 = 300, which is the number of residents that Louis XI requested be perpetually maintained at the hospice.
generally consigned to begging kept them continually separate from society while still giving them a highly public presence. Thus, the handicapped were often the object of derision, portrayed as being “nothing but a piece of shit” (in the less-than-delicate words of one medieval play). At the same time, people recognized that they shared the same sensible imperatives as everyone else. In the words of Claude-Adrien Helvétius, “One could be deaf, blind, hunchbacked, lame and have the same desire for self-preservation, the same hatred of pain and the same love of pleasure.” All in all, according to Henri-Jacques Stiker, the disabled were “never truly excluded, for [they] were always spiritually integrated; never integrated, for they were always on the social fringes.”

By the time Verdier launched his school in 1773, educational institutions dedicated to the sensorially variable had started to appear, but they were still a relatively new concept. Verdier’s maison was not only one of the few institutions dedicated to the sensorially variable; it was also one of the only ones to group these students with physically able students. Moreover, it combined variable students with those whose abilities were considered to be of the highest caliber. Verdier expected both groups to live together in the same quarters and to adhere to the same rules. The Maison’s educational plan, which treated each individual as unique, did not separate handicapped students from their privileged peers. Relying on the discourse of sensibility, Verdier’s school sought to perfect the capabilities of all individuals, not just “well-

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formed and vigorous subjects.” Verdier inquired. “But with an education appropriate to these defects [vices],” he continued, “one can correct and handle these faults. In blindness, the art of supplanting sight with touch has even been seen to drive the mind to a point of perfection that the majority of men do not reach with all their senses.”

In this passage Verdier referred to the sensory economy, in which the lack or weakness of one sense could augment another. According to this schema, the blind could have a degree of tactile perfection unknown to those accustomed to relying on their eyesight. This concept of the sensory system was quite similar to that at work in Jean-Bernard Mérian’s mémoires, in which the philosophe claimed that the state could benefit by blindfolding poor children from birth. In both Mérian and Verdier’s educational plans, blindness and other variable sensory states were not inherent handicaps. They were indicators that a specialized education was required in order to perfect a different set of talents, all of which could be useful to society. Even Jean-Jacques Rousseau saw blindness as a potential social boon. In Emile, Rousseau recommended that the eponymous pupil be educated in the dark. Rousseau admired that “the blind have a surer and more delicate sense of touch,” and he proclaimed, “I had rather Emile’s eyes were in his finger tips than in the chandler’s shop.” Individuals reliant on their sight were helpless half of the time, whereas the blind were always self-possessed. Moreover, sight often compromised the sensory data gathered by touch, but the blind were capable of the surest discrimination.

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105 Verdier, Cours...d’état, 6.
106 Ibid., 6-7.
107 See Chapter One.
109 Rousseau, 116-122.
According to Rousseau, blindness was a positive attribute to be emulated in order to produce the perfect, reasoning child. With the manipulation of the sensory economy and specialized training regimens, savants hoped to change what had historically been perceived as deficiencies into real social goods.

Despite being received favorably by the Paris Faculty of Medicine and various journals, Verdier’s school was shut down and destroyed in 1787 to expand the Jardin du Roi. Yet Verdier’s educational plan was reportedly carried out in “most of the ten military colleges,” and he continued his efforts to develop an effective physico-moral education into the Revolutionary years.110 In 1792, he published a pamphlet entitled Discourse on the national, physical, and moral education of the two sexes; considered according to the needs of man in nature and society, as the means to develop and extend his faculties, his knowledge, his talents, and his virtues; to enrich families and the state; to extinguish poverty and begging; to multiply to living forces of the nation, for a larger population of citizens; and to found individual, domestic, and national happiness on the constitutions of nature and the French Empire. The title draws attention to several key aspects of Verdier’s educational plan, which with a few exceptions, was the same as the one described in earlier writings. For one, the new plan was considered “suitable for all the French,” including both men and women.111 Verdier’s attention to women marks an ever-greater inclusivity and indicates Verdier’s conviction that the nation should incorporate the talents of all individuals. Verdier considered a sensationalist education well suited to “children of different classes of citizens in individual homes, schools, and educational hospitals, so that all

111 Ibid., 4.
participate in the riches in France through useful works.”\textsuperscript{112} The discourse of sensibility gave Verdier a means of arguing in favor of a holistic, economic society, and it also gave him access to modes of practical action to make the theories a reality.

Secondly, this 1792 treatise highlighted the relationship between the individual’s well-being and that of the state, emphasizing the individual, domestic, and national happiness of French citizens. Revolutionary fervor certainly brought national identities to the fore, but even in his projects from the 1770s, Verdier focused on the potential that his educational reforms could have for the nation. Citizenship was a recurrent theme for Verdier, who stressed that with the proper education, valetudinarians could become “philosophes who were both Christians and citizens.”\textsuperscript{113} He argued that the school would benefit “students destined for the highest professions and great state employments,” and that “there perhaps are no heads so anxious and uncontrollable that they couldn’t be given the justice and mental activity necessary to become a good citizen.”\textsuperscript{114}

David Bell has shown that there was a patriotic revival during and after the Seven Years’ War (1754-1763) that was further catalyzed by the Maupeou coup of 1771, and John Shovlin has noted that patriotism was an increasingly prominent element of French culture in the 1750s and 1760s.\textsuperscript{115} By the time Verdier founded his maison, employments of “citizen,” “state,” “nation,” and other such terms circulated freely, and it was commonplace to encounter them as central components in discussions of the collective. Given this surge of national pride, Verdier’s

\textsuperscript{112} Ibid.

\textsuperscript{113} Verdier, “Maison,” 16.

\textsuperscript{114} Drawn from the full title of \textit{Cours…d'état}.

dedication to the state and its citizens is perhaps unsurprising. Yet it does not diminish the fact that his favorite social designator was “citizen.” For Verdier, “citizenship” carried a necessary moral component, a perspective shared by most patriots, who “believed that moral qualities were crucial to the regeneration of France.”116 Honest sentiment, a strong moral and physical constitution, and an ethical commitment to solving the problems of the collective were the defining characteristics of the “good citizens” educated at Verdier’s school.

This terminological choice also reinforced Verdier’s attempts to formulate a more inclusive concept of the social body. The language of patriotism and citizen relied on concepts of community rather than the particularist language of estate, personal interest, or sect.117 For Verdier, appreciating individual particularity was crucial to maximizing the resources of the nation, but those private goods would redound to a collectivity that was, above all, identified by its status as a political community dedicated to public welfare. The category of “citizen,” in this light, transcended other social distinctions. Le Camus’ *amour-propre*-centered system extended the possibility for “aristocratic” honor to all individuals, and Verdier’s emphasis on citizenship marked a similar extension of social good to all groups, regardless of estate, class, or physical condition.

While Verdier’s argument was not explicitly “economic” in the modern sense, it still fits within an eighteenth-century political economic framework (hence its inclusion in the *Journal oeconomique*). To be “economic,” in this eighteenth-century sense was to be concerned with the distribution of forces and resources within society, and Verdier’s school, at its core, was devoted


to enabling commerce and the smooth circulation of social goods. By incorporating new individuals into the economic system, making them productive and useful, and honing talents that they could then offer as services, Verdier was facilitating the operation of commerce. Verdier’s pedagogical division of labor, wherein each individual was trained so that she could offer the fruits of her particular talent to the nation, set the individual animal economy in line with collective political economy. His school sought to maximize the human resources provided by nature in order to work toward the common good. Thus, the manipulation of the animal economy and the consequent creation of an expanded body of citizens opened the door to a more inclusive political economic system.

**Valentin Haüy and the *Institut des jeunes aveugles***

In August and September of 1771, Saint Ovid’s Fair took place at the Place Louis XV. Filled with boutiques boasting jewels, exotic printed cloths, and the latest fashions, the fair also played host to a number of vivid spectacles, including a marionette theater, menageries, and tightrope walkers. Among the most popular of these spectacles was a performance given by a blind orchestra at the café of *sieur* Valindin, which became the *Caffé de l’Ambigu-Comique* several years later. The *Almanach Forain* described the scene:

> The orchestra was composed of eight people, dressed in long robes and wearing long pointy bonnets. A ninth blind person was suspended in the air on a peacock, beating in time (out of time). Like his camarades, he had a red robe, clogs on his feet, and a large bonnet with ass’ ears. In turn, they sang humorous couplets, accompanying themselves ridiculously on violin, and they repeated in chorus the refrain of the couplets. Each blind person had in front of him a sheet of music and a lighted candle. The throngs of people who came to see this joke were often so large that it was necessary to put riflemen at the door of the café and to have the so-called musicians step down from time to time.118

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118 [Pierre-Jean-Baptiste Nougaret], “Foire Saint Ovide,” in *Almanach Forain, ou les Différens spectacles des boulevards et des foires de Paris* (Paris: Valleyre l’aîné, 1773), n.p. Imitations of these concerts occurred in subsequent fairs and at other cafés, and in the Café des Aveugles in the basement of the Palais Royal, they were a regular feature.
As this anecdote shows, the figure of the blind, clumsy, ignorant buffoon lasted well into the eighteenth century, and it seems that this trope was highly entertaining to viewers. But Valentin Haüy, a linguist who was appointed Interpreter to the King in 1783, viewed this concert and the joy of its other attendants with horror. “An entirely different sentiment seized our souls,” he wrote of the experience, “and we conceived in this instant the possibility to realize the


120 Ingrid Sykes has argued that Haüy found the dislocated voices of the musicians, which spoke “through the instrumental body…not through the blind mouth itself,” dissettling and socially threatening. (“Sounding the ‘Citizen-Patient’: The Politics of Voice at the Hospice des Quinze-Vingts in Post-Revolutionary France,” *Medical History* 55 (2011), 487.)
advantage of these Unfortunates.” The “we” in question was the Société Philanthropique, a charitable society founded in 1780 by Savalette Langes, the Garde du Trésor Royale. Deemed “the most respectable of all those that exist in Paris” by Louis-Sébastien Mercier, the society sought to aid “the poor, octogenarians, nonagenarians, those born blind, women in labor [or following childbirth], widowers charged with families, fathers and mothers with ten parents, and crippled workers,” and it was to their venerable coffers that Haüy turned in 1783 with his proposal for aiding the blind.

At its inception, the Société had seven members, but by 1787, there were more than six hundred subscribers. The members included the abbé de l’Épée, the marquis de Chastellux, Benjamin Franklin, Jacques Necker, Charles-Maurice de Talleyrand-Périgord, the duc de La Rouchefoucauld, Antoine Lavoisier, Pierre-Samuel du Pont de Nemours, the marquis de La Fayette, Valentin Haüy, and an “impressive series of aristocratic subscriptions.” The Société was one of a number of philanthropic institutions that emerged in the last third of the eighteenth century, who responded to the “archaic and powerless ‘police of the poor’” that had characterized the formal approach to poverty at the end of the seventeenth century and throughout the earlier portion of the eighteenth.

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122 Louis-Sébastien Mercier, *Tableau de Paris, nouvelle édition*, vol. 11 (Amsterdam, 1788), 114-5.

123 Catherine Duprat, “Pour l’amour de l’humanité”: Le temps des philanthropes: La philanthropie parisienne des Lumières à la monarchie de Juillet (Paris: Éditions du C.T.H.S., 1993), 68. Membership was entirely masculine, and there was no free access. Members had to presented to the society rather than simply asking to join. While Duprat notes that king’s actual participation was minimal, he still entrusted funds to a number of their projects. For more on the Société Philanthropique, see Duprat, 65-108.

charity, government relief in the forms of grants and *atéliers de charité*, and informal relief. The last of these was minor, and rarely took the form of voluntary giving; beggars and vagrants often preyed on vulnerable farmers, and frequently, the donor felt abused by the individuals to whom he was contributing.\textsuperscript{125} Government aid was generally provided only in abnormal circumstances, such as times of famine, and the *atéliers de charité*, which were intended to supplement seasonal incomes by providing laborers with temporary work, were poorly funded and often revealed a gap between planning and implementation.\textsuperscript{126} Thus, most of the care for the poor and indigent fell to Christian charity, but this support was largely inadequate in the face of growing poverty rates. For many, “formal institutional relief was not a factor in their struggle for survival.”\textsuperscript{127}

Throughout the eighteenth century, the Christianity-centered ethic of charity began to shift to a more secularized concept of *bienfaisance* [beneficence], and “the holy character of poverty seemed increasingly dubious, while the Calvinist sense that worldly success was a sign of divine favor evidently penetrated into the Catholic world as well.”\textsuperscript{128} Critics often blamed Catholic charity for encouraging the laziness, idleness, and vice of the poor, and increasingly, benefactors and administrators sought to make poor relief more purposeful.\textsuperscript{129} Reformers valorized work, and while they were not always implemented with success, new initiatives for


\textsuperscript{127} Hufton, *The Poor of Eighteenth-Century France*, 176.

\textsuperscript{128} Ibid., 155.

poor relief often included a work component. The poor were increasingly considered, not within the framework of religious charity, but within a socioeconomic context.

As the rates of poverty continued to grow, perhaps reaching up to one-third-to-one-half of the population by 1789, with indigence reaching an estimated ten percent, debate grew as to how to deal with this significant population. A 1764 commission headed by the Controller-General of Finances, Clément Charles François de L’Averdy, made the punishment for vagabondage harsher and suggested the establishment of dépôts de mendicité in each généralité. The objective of these dépôts was to control the population of beggars, but they “treated the symptoms rather than the causes of poverty,” and given the immense size of the indigent population, “criminality and begging could not be halted by the dépôt unless the government was prepared to sweep up perhaps one-tenth of the population and maintain it in custody.” In short, by the late eighteenth-century, secular assistance was greatly favored by reformers, but unfortunately, “the state [had] thus proved no more effective than private and religious charity in relieving poverty or staunching the flow of vagrants.” Philanthropic groups like the Société philanthropique stepped in to fill this perceived gap. Privately funded around secular values, many of them focused on how to reincorporate the indigent into a working population. While many new reform initiatives developed outside the direct influence of the state, one should not infer that reformers saw themselves as opposed to it. In the minds of many philanthropists, it was through the joint efforts of state reform, philanthropic societies, and individual reformers that


132 Woloch and Brown, Eighteenth-Century Europe, 158.

133 Ibid., 159.
widespread social reform would be made possible. Individuals that normally would have been sequestered and kept separate from society became inscribed in a conscious program of national, social improvement.

Haüy, interested in incorporating the blind into the social body, drew upon the idea that the blind could learn to see through the use of other senses. He hoped to develop a plan of education that would save poor blind people from the “idleness that they didn’t believe they could ever escape.” He presented his plans for the foundation of the Institut des jeunes aveugles (IJA hereafter) to the Société in 1783, and the Société agreed to provide annual aid for “twelve children of poor workers, blind from birth or from a young age.”

Institutions like Quinze-Vingts existed in order to aid the blind, but the IJA marked a significant departure from these previous institutions in a couple of ways. For one, the Quinze-Vingts was established to help blind adults, and it did not provide any support for those under the age of twenty-one (precisely the age at which the Société declared the aid for Haüy’s students would be cut off). The concern with youth fit in with a number of simultaneous administrative efforts to keep foundlings, orphans, and street children out of the public eye. For instance, from the 1770s, the lieutenant of police Sartine, “knew that the security and public order in Paris consisted in emptying the streets of the city of the destitute and beggars, which were more and more numerous from the middle of the century, and to try to teach them a métier,” but finding many of the foundling hospitals full, he sent many children to schools like those of the abbé de

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l’Epée and Haüy.\textsuperscript{136}

This emphasis on youth also fit with the second prerogative: to teach the blind skills that would “make these unfortunates useful to society while assuring them a means of subsistence.”\textsuperscript{137} Beginning their education from an early age would hopefully provide the blind youth with skills that would keep them from mendicancy in their adulthood. Haüy lamented that the blind were “dead to society at the same time that they receive their means of existence from it,” and were forced to beg despite the fact that they had the potential for an enriched memory or “a dexterity capable of doing honor to an artist equipped with his eyes.”\textsuperscript{138} While Quinze-Vingts had successfully furnished a home for a number of blind citizens, it had not made them a socially productive element, and their buffoonery and begging still held the potential for civil unrest. The IJA, on the other hand, placed skill-oriented instruction at the forefront of its mission. In the Essai sur l’éducation des aveugles (1786), Haüy outlined his pedagogy and the results of its application over the previous thirty months and claimed “the goal of our Institution” to be: “To teach the blind to read…To put in the hands of these unfortunates diverse occupations relative to the Arts and Métiers….To weed out from begging those who are not privileged by Fortune by giving them the means of subsisting; and finally rendering to Society their arms.”\textsuperscript{139} The main focus of Haüy’s institution was to provide skills for blind individuals who had not been fortunate

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138 Haüy, Essai, vi; Ibid., v.

139 Ibid., 6-8.
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enough to have private tutors, rigorous medical attention, or technological aids specially devised for their conditions.

Fig. X: List of Subscribers to Haüy’s *Essai* (1786)
MVH A-02-3004, 2 & 3.

Haüy, like Verdier, Mérian, Rousseau, and Le Camus, stressed the importance of the sensory economy. He argued that touch served as an ocular substitute and would bring blind students into commerce with the sighted. To that end, Haüy’s students were taught to read and create raised printing like that pictured above. Given that reading was one of the main forms of human communication and “the Canal through which we arrive at our different knowledge,” Haüy claimed that teaching the students to read would encourage their capacity for communication.\(^{140}\) It would help them clear up the “disordered heap of vague notions” that formed without literacy, and through “their touch, which became in some sort a type of vision,” their “thoughts could take form.”\(^{141}\) The font size was much larger than that of usual eighteenth-century printing, as was the letter spacing, but the characters were the same as those used by

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\(^{140}\) Ibid., 15. Note the use of “canal” which was often used in sensationalist medicine to describe the medium through which knowledge was transferred to the sensorium commune.

\(^{141}\) Ibid., 18.
sighted readers. Additionally, many of the students’ texts were printed in both relief and with ink, indicating that they were intended for a double audience. Haüy consistently emphasized that blind printing should be as much “for the service of the sighted” as it was “useful to the blind for their own use.” All these elements reveal that Haüy expected his blind students to be incorporated into mainstream French literary culture. The blind did not have their own tactile language until Louis Braille, one of the Institut’s later residents, created Braille in 1824. Haüy believed in making the best of variable sensorial conditions, but he still positioned students in relation to the sighted, preferring “the ways of the latter.” Even though he relied on economic notions of sensibility, Haüy clung to traditional perspectives on difference, and he hoped to bring his students into a social whole by drawing their abilities nearer to those of their sighted peers. This is in contrast to Jean-Bernard Mérian who treated blindness as having potential advantages. These two cases provide an excellent example of how the same conception of sensibility was used to approach the same problem (the incorporation of the blind into the social whole), but yielded different social conclusions.

According to Haüy, reading the same texts as sighted society would help students understand themselves as part of the French nation. The teaching of history, for instance, would instill a sense of French citizenship and “an inviolable attachment for their king,” and the use of geographical maps would permit them to distinguish different kingdoms and provinces. In the Journal de Paris, “A Philanthropist who was present at the exercises on the 26th [December 1786],” a demonstration given to the King, Queen, and court, expressed his delight and surprise

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142 Ibid., 61; Ibid., 59.
144 Haüy, Essai, 109-110; Ibid., 82.
at seeing the blind students read and write, a sentiment undoubtedly shared by many other spectators. Yet Haüy was not content that his patrons’ focus end there, and he responded a week later, “the works relative to métiers also seemed to interest these august individuals [the King, Queen, and Royal Family]…Knitting, taking measures, and book-binding were also presented in the hope that [these skills] could offer this unfortunate class resources against indigence. This letter makes clear that while Haüy expected his school to educate students in history, geography, and mathematics, he focused on practical skills rather than the cultivation of scholars. It was this practical emphasis that he wanted to remain foremost in the public mind.

The 1784 budget for supporting Haüy’s poor blind students totaled 347 livres, 144 of which was divided among twelve students for subsistence costs, thirty-six of which went to heating, twenty-four of which went to the most deserving student, and seventy-two of which went to buying instruments with which to teach them métiers. The monetary significance of the latter portion, which made up the second highest category of funding after subsistence, suggests that the training of students for trades figured centrally into the institution’s goals, as well as those of its backers. During the Revolution, Haüy made his concern for workers more pronounced by shifting the IJA to “the Insitute for Blind Workers.” It was through these skills that Haüy sought to incorporate his pupils into a sight-dominant society and give the blind a new

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147 Haüy was not the first reformer who suggested putting the blind to work. In 1526, Juan-Luis Vivès, a Spaniard living in the Low Countries, published De subventione pauperum, a treatise that recommended integrating inactive groups, including the blind, into Bruges’ economic life, but “it had, however, no effect on putting the blind to work” (Weygand, The Blind in French Society, 29).

understanding of themselves as the “co-citizens” of the sighted.\textsuperscript{149} In an ode to the IJA published as an addendum to the educational plan, the blind poet Huard, who was a resident at the \textit{Maison}, lauded this tactic, demonstrating that students were aware and approved of the instrumental aims of Haüy’s institution.\textsuperscript{150} Through work, the blind could be incorporated into the broader group of citizens, and thus, feeling themselves to be a part of the nation went hand-in-hand with their social utility and economic productivity.

Many of the \textit{métiers} emphasized at the IJA were manual trades, and Haüy reported particular success with spinning, bushel-making, knitting, sewing, bookbinding, and above all, printing. Many of Haüy’s blind students were put to work in a printing shop that was set up at the IJA’s headquarters at 18, rue Nôtre-Dame-des-Victoires, and their work was overseen by several high-profile printers and booksellers—Vincent, the \textit{Ancien Imprimeur de Monsieur}, Clousier, the \textit{Imprimeur du Roi}, and Saillant, \textit{Ancien Libraire}—who attested that the students could compose a manuscript in relief, justify lines and pages, clamp, handle the frames, marginate, operate the Press, distribute the characters, bind their books, etc., all to satisfaction.\textsuperscript{151}

In part, this emphasis on manual skills probably was likely linked to the fact that manual trades would have been adequate to provide basic subsistence wages. Yet, thanks to the sensory economy, there was a deeper reason for Haüy’s insistence on manual crafts. He concluded that the absence of ocular fibers could make the blind more adept than their sighted brethren at tactile

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\item \textsuperscript{149} Haüy, \textit{Essai}, 3.
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tasks. Haüy wrote, “we had no other care than to select the types of work that would be proper for them.” This “proper” work located the talents of the blind in their hands, and it was through manual labor that they could contribute to society as a whole. Haüy aspired “to mix the useful and agreeable in [his] Establishment,” a goal that implied a close link between pleasure and utility. While Haüy did not go as far as Le Camus in arguing that the pleasurable and the useful are equivalent, he did indicate that pleasure and utility could frequently accompany one another. Ultimately, though, it was through the polishing of useful skills that the blind could move beyond their neither/nor social status, and it was productivity that gave them their social value.

Finding such success with manual professions, Haüy declared that the school “had more work than craftsmen,” and through this work, he claimed, “we will thus extirpate the penchant for begging, and we will succeed at putting everyone together in our tableau, and in animating all the parts.” Haüy’s school focused on harnessing the skills of which individuals were capable, rather than focusing on their limitations. Recognizing the individuality of the body and the intellect, he still proposed a system by which individual particularities could be incorporated into a social tableau and maximized within it. All bodies were different, but they were conceived as having equal potential for social good.

152 Jessica Riskin has discussed how blindness in the Enlightenment was often associated with a capacity for abstract thought, such as mathematics, and she uses Haüy as one of her central examples to make this case (Riskin, Science in the Age of Sensibility, 19-67). To a degree, the relationship between abstraction and blindness is upheld in the writings of Haüy, who claimed that the blind “have such a disposition for calculation that we have often seen them follow a single mental calculation and straighten out its errors,” but it does not figure as centrally in his writings as the relationship between blindness and manual ability (Haüy, Essai, 77).

153 Ibid., 93.
154 Ibid., 10.
155 Ibid., 94-95.
Conclusion

The natural economy, from the perspective of eighteenth-century sensible reformers, provided a wide array of resources for society. Every individual possessed a unique array of skills, talents, abilities, and sensory capacities, and through programs of education that manipulated the sensible system, these reformers hoped to refine each individual’s particular genius. The projects of Le Camus, Haüy, and Verdier mark three such attempts to maximize natural resources through the adjustment of the animal economy.

For Le Camus, non-naturals offered the potential for converting every individual into an *homme d’esprit*, a clear-thinking, healthy individual, who, through the gratification of *amour-propre* would cultivate his talents and advance the interests of the state. For Verdier, individualized regimens would create a group of healthy, intelligent, moral students whose specialized talents could bind them to the collective body of the nation. And for Haüy, the blind could be integrated into a productive labor force with an education that catered to their expanded capacity for touch. Productivity often figured as one of the key outcomes of these programs of sensible management, and it was through the division of labor that each individual could be made most useful to the nation. In the reforms of Haüy, Verdier, and Le Camus, utility was a common refrain, and all three trusted that individual talent, which could be honed and harnessed through the manipulation of the body, was necessary to a well-functioning nation. An individual’s social membership was directly dependent on the use she made of her personal stock of resources.

Le Camus, Verdier, and Haüy offer three examples of reformers who worked within the idioms of “citizenship,” “state,” and later (in the case of Verdier and Haüy, whose work...
continued through the revolutionary era), “nation.” This is perhaps unsurprising, given that these idioms were “in the air” at the time. As Robert Morrissey has shown, by the time the abbé Coyer wrote *Dissertations sur le vieux mot de ‘Patrie’* in 1755, “the designation of the collectivity [was] up for grabs,” with “kingdom,” “state,” “France,” and “patrie [fatherland]” vying for the title.\(^{156}\) Talent-oriented projects may have leant themselves readily to these idioms, which connoted a particularism that fit with the historical origins of “talent” as a stand-in for “French genius” or “French character.” But citizenship and nationhood were not the only eighteenth-century concepts that denoted collective relationships. Sara Maza has argued, “At a time when older models for society–ordered, corporate–seemed increasingly irrelevant, and before the appearance of modern class, national, and historical solidarities, strong affective family bonds were the only available means for imagining an enduring social cohesion.”\(^{157}\) In Maza’s formulation, sentiment played a powerful role in solidifying group identities. And by mid-century, another collective term had begun to gain semantic importance: “society.” As Keith Baker has shown, the word existed prior to the mid-eighteenth century, but there was a critical shift in which “the earlier, voluntaristic associations of the term…[were] joined by a more general meaning of society as the basic form of collective human existence…a corollary of human needs and a human response to those needs.”\(^{158}\) “Society” combined individual civility with social responsibility, taking as its premise the idea that people are, by necessity, interdependent.


These three options—political solidarity, sentimental cohesion, and society—were not antagonistic to one another, nor were they exclusive. We can see all three simultaneously at work in the efforts of Le Camus, Verdier, and Haüy. They undertook their projects in the name of the state, stressing the financial and political benefits that would result from their work. At the level of practice, their reforms emphasized sentiment, experience, and feeling, and the sensibility-oriented regimes that they created targeted humans’ moral and passional foundations through physical means. They sought to incorporate all individuals, highlighting the inescapable fact of human interdependence. No single, simple notion of collective existence guided these reformers’ actions.

Yet in some sense, the concept of “society” offered them the clearest path to collective improvement. Le Camus, Verdier, and Haüy all based their projects on the foundations of sensibility, and while sensibility did not create the concept of “society,” they fit neatly with one another. These concepts developed in tandem, and individuals who participated in the discourse of sensibility often participated in that of society as well. Like the discourse of sensibility, “society” took need as its basis. Natural laws guided the operations of the economy of nature, ensuring that an individual’s physical needs were met and guaranteeing her self-preservation. Likewise, natural laws upheld the operation of society, and the pooling of resources guaranteed the longevity and success of the collective. Basic biological responses to pleasure and pain worked toward the preservation of the individual by helping him meet his needs, and properly channeled, these same impulses became the means to fulfilling collective needs and desires. The micro-processes of the body formed a gateway to the macro-level functioning of society.
CHAPTER FIVE

Charged with Feeling:
Medical Electricity and the Social Incorporation of the Useful Individual

In 1772, abbé Sans’ optimism knew few bounds. He insisted that electricity was a wonder-element perfectly suited to cure mental and physical ills of all sorts, “Isn’t it truly shocking,” he asked,

that lost memory is reestablished; that mislaid reason regains its former rights; that nearly extinguished eyes are returned to the light; that mute tongues are restored to liberty; that members without feeling recover their natural sensibility; that strength and movement are introduced anew in paralyzed muscles; that one sees, in a word, a sensible image of the new resurrection of an almost-destroyed man, by the action of only one element, put into action by an electrical machine?¹

With the help of electrical fluid, those who had been deprived of their reason, tongues, eyes, or limbs would rise, Lazarus-like, from their near-death state to regain their former capabilities. They would be able to communicate freely, share ideas, and move according to will and desire, all with aid of a single machine. Sans was certainly not alone in this belief, and over the course of the eighteenth century, hundreds, if not thousands, of individuals were treated by physicians who placed their faith in the restorative powers of electricity.² As Sans’ description above intimates, paralysis chief among the ailments thought to be particularly suited to electrical treatment, although it was a broader nosological designator in the eighteenth century than it is today.

¹ Joseph Sans, Abbé, Guérison de la paralysie par l’électricité, ou cette expérience physique employée avec succès dans le traitement de cette maladie regardée jusques à présent comme incurable (Paris: Cailleau, 1772), x-xi.

² Exact patient numbers are difficult to discern, but the records of the Société royale de médecine alone attest to the treatment of over three hundred patients, and similar experiments were carried out in the provinces at major medical sites (primarily those affiliated with the military). Additionally, machines were installed in poor houses and presumably would have been used on a number of individuals therein.
Medical electrical treatments offer a privileged site for analysis for several reasons. For one, by looking at paralysis, a distinct set of questions emerges: What did it mean to lack feeling altogether; what was the social value attributed to feeling; and why was it deemed so necessary that those incapable of feeling be restored to it? Secondly, debates about medical electricity were waged primarily under the auspices of two royal institutions: the Académie royale des sciences (ARS hereafter) and the Société royale de médecine (SRM hereafter). The former began its tests with medical electricity in the 1740s when Jean-Antoine Nollet and his fellow academician Saveur-François Morand carried out a brief series of experiments on paralyzed war veterans at the Hôtel des Invalides. These experiments failed to produce any positive results, and medical electricity fell out of favor until the 1770s and 1780s when Pierre Jean Claude Mauduyt de la Varenne, a member of the newly formed SRM, undertook an extensive series of trials. These projects present an opportunity to analyze the formal, institutional, and royally sanctioned approach to sensibility. Physicians argued that medical electricity was particularly suitable for the poor and paid close attention to their patients’ capacity for work, demonstrating that class issues, as well as commercial and political potential lay at the center of this type of sensible management. The French state invested significant resources to developing cutting-edge medical knowledge, and reformers consciously sought to expand the productive capacities and moral responsibilities of individuals unable to contribute to the economic prosperity of the country. Medical electrical experiments highlight the state’s expansion into the daily lives and health of individuals, as well as provide an illustration of how values of productivity and utility became closely bound to conceptions of an individual’s contribution to society.

The specter of Foucault inevitably floats above any claims about the connections between medical and political imperatives. The information presented in this chapter supports his claim
that the eighteenth century marked the development of networks of power that took the body as their object. Power is an important consideration when it comes to the relationship between the body, the state, medical practitioners, and scientific institutions in the eighteenth century, and historians following the Foucauldian narrative have successfully shown just how imbricated these various elements are. That said, by focusing on the instrumentality of the body, I do not wish simply to rehash a familiar narrative. Instead of focusing on how power operated, this chapter will uncover the particular social visions that were at stake in sensible manipulation. More specifically, it reveals how certain royal institutions (and the experimenters therein) understood sensibility’s place within society. State finance, emotional well-being, utility, entertainment, and the growth of medical commerce all emerged as motivations for medical electrical treatment, coalescing into an articulation of a society that operated as economically and holistically as sensibility itself.

Electricity and Sensibility: Applications and Connections

While the concept of electricity has a rather long lineage, it was only in the eighteenth century that it burst onto the scientific scene, becoming a veritable obsession. Electrical demonstrations’ visual and experiential appeal contributed significantly to their popularity, but it was not just wonder that drove the vogue for all things electrical. Electricity also fit within a more general eighteenth-century Weltanschauung that “took all nature for a subject and explained its course by the operation of some universal principle or substance of great subtlety.”

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3 For an excellent and recent example, see Sabine Arnaud, L’invention de l’hystérie au temps des Lumières (1670-1820) (Paris: Éditions de l’École des hautes études en sciences sociales, 2014), esp. Ch. 5.


These “subtle” substances—also called imponderables—were invisible, weightless, and able to pass through solids. They permeated the universe, flooding it with power and mystery, and they were associated with the most integral functions of life itself. Electricity, fire, magnetism, irritability, sensibility, polarity, and heat were some of the main contenders for the status of “universal principle,” or the imponderable *par excellence*. Because of their omnipresence, these constructs necessitated a totalized perspective of the *milieu* in which they existed. The totalizing aspect of these principles invited a reconsideration of various natural, social, and bodily relationships in the eighteenth century, ultimately strengthening Enlightenment claims about the implicit connections between the natural economy, the individual, and society. François Zanetti has claimed that electricity in particular “permit[ted] the introduction of a unified vision of man” and enabled a holistic concept of being that linked the physical, mental and moral, inscribing the individual within a larger political space. This claim is strikingly similar to that which I have advanced regarding sensibility, and indeed, medical electricity facilitated this new vision of humanity. Yet electricity, heat, fire, and many of the other imponderables were not, on their own, responsible for the effects that Zanetti describes. Instead, the discourse of sensibility acted as an umbrella concept, encompassing and enabling the flexible operation of many of these other wide-ranging concepts.

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6 Ibid.

7 John Tresch has described the way in which the study of imponderables entailed a totalized perspective in the 1830s and 40s, giving birth to a new cosmovology centered on the “romantic machine.” His model of romantic mechanism is historically specific, but the interest in imponderables applied to the eighteenth-century as well (*The Romantic Machine: Utopian Science and Technology after Napoleon* (Chicago: University of Chicago Press, 2012), 4-6.).

One main way in which sensibility diverged from its other imponderable brethren was in its first stable characteristic. Unlike electricity, heat, and magnetism, sensibility was not a fluid or an element; it was a faculty that depended on the actions of imponderables like electricity or elemental fire. According to eighteenth-century men of science, electricity was able to stir matter and move it rapidly.\(^9\) When applied to the body, this meant that electricity quickened the operations of the animal economy, setting everything in motion so that, in the words of Pierre Bertholon, “the elasticity of solids is reestablished or considerably heightened…the oscillations of the fibers take on more force, the movements of the different viscera are exercised with greater liberty.”\(^10\) “In a word,” he continued, “[electricity] augments the speed of all fluids, whatever their nature.”\(^11\) Electricity had the power to stir what other factors had slowed or stopped, and it served as a corrective for an overly sluggish sensible system.

More specifically, electricity was a new and particularly potent non-natural whose effects on the animal economy were closely linked to the processes of perception. Like the other non-natural elements–food and drink, air, sleep and waking, evacuations and retentions, movement and repose, and the passions–electricity had the power to alter the sensible system, jolting the fibers to action and altering the pathways to perception. Non-naturals with a high level of elemental fire–including coffee and liqueurs, which are addressed in the next chapter–had the capacity to incite more vigorous movement, and electricity, as a pervasive subtle fire, could do


\(^10\) Pierre Bertholon, De l’électricité du corps humain dans l’état de santé et de maladie (Lyon: Bernuset, 1780), 44-45.

\(^11\) Ibid., 45.
so intensely, immediately, and directly.\textsuperscript{12} Electricity fit neatly into the worldview that accompanied the discourse of sensibility, furnishing a powerful means to balance the animal economy.

It is easy to understand how scholars have come to view electricity, instead of sensibility, as the key structuring agent given the two concepts’ particularly close connection in the eighteenth century. Pierre Bertholon argued that “electrical matter is the strongest irritant for the sensible and irritable parts of the animal body,” and some doctors, like the encyclopedist Arnolphe d’Aumont, even went so far as to claim that nerve fluid and electricity were one and the same.\textsuperscript{13} The two concepts often operated in tandem, and like sensibility, electricity had immense power over the body and mind. Yet ultimately, electricity was ancillary to sensibility, and it did not, in itself, constitute a faculty. It was only thanks to sensationalist epistemology and sensible medicine that physicians considered fiber quickening to have such a significant effect on processes of individual perception. Electrical experimenters repeatedly emphasized that the effects of electricity were first and foremost determined by the sensibility of the patient. For instance, Mauduyt argued, “It is not possible to strictly fix the degree of electricity for each illness because this degree…should be in accordance with the sensibility, force, and irritability of


the fibers of the subject being electrified.” Similarly, Pierre Bertholon emphasized that electrical treatment was not advisable for individuals with great deal of sensibility, since it could overstimulate them instead curing them of their ills. Sensibility functioned as a broader discourse that helped structure conceptions of electricity, and its characteristics helped explain the changes wrought by electrical treatment.

François Zanetti has claimed that it is possible to view electricity as “a support in the transition or superimposition of different models [of medicine],” but its status was precisely that: a support, serving as “a very appropriate vehicle” for the linkage of body and mind. Concepts like electricity may have facilitated a gradual shift between iatromechanism, animism, and vitalism, but they did so by functioning as part of the discourse of sensibility, which operated across all medical models and provided an ontological bridge that united, not only the diversities of the individual body and individual experience but also the diversity of governed bodies. In other words, electricity was a crucial eighteenth-century discovery that opened up a variety of new cosmological perspectives, but much of its discursive power came from its links to sensibility.

**Paralysis and Electricity**

Historians have tended to portray the illnesses treated with electricity as a diverse and unrelated set of ailments, addressed indiscriminately by a group of enthusiastic physicians who

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15 Bertholon, *De l’électricité du corps* (1780), 32.

viewed electricity as a cure-all. Mr. Poma and Mr. Renaud, two correspondents of the SRM who treated forty-seven patients in St. Dié in Lorraine, divided their treatment groups into “intermittent fevers…epilepsy, deafness, gouttes sereines [an eye malady linked to a loss of sight], paralyses, pains in the extremities, rheumatisms, rickets.” Similarly, in his trials for the SRM, Pierre-Jean-Claude Mauduyt de la Varenne treated a number of afflictions with electricity: deafness, milky effusions, gout, rheumatism numbness, eye maladies (particularly goutte sereine), stopped and missed menstruation, and paralysis (Table 3).

Table X. Types of Illnesses Experienced by Mauduyt’s Patients

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17 For some examples of this tendency, see Oliver Hochadel, “‘My Patient Told Me How to Do It’: The Practice of Medical Electricity in the German Enlightenment,” in Electric Bodies: Episodes in the History of Medical Electricity, ed. Paola Bertucci and Giuliano Pancaldi (Bologna: University of Bologna, 2001), 69; Michael Hubenstorf, “Elektrizität und Medizin,” Technik und Medizin, ed. Rolf Winau (Düsseldorf: VDI Verlag, 1993), 241-57; Fara, Entertainment for Angels; 94.

Indeed, these do seem to be motley assemblages of ailments, and they might lead easily to the conclusion that there “there was hardly an ailment that could not be cured by electricity.” Yet before assuming that physicians applied the treatment willy-nilly, it is necessary to ask whether these ailments share some connection. And it is in paralysis, the largest piece of the pie, that some answers lie.

On September 9, 1778, M. Beurlier, a forty-two-year-old engraver, submitted himself to the physician Pierre-Jean-Claude Mauduyt de la Varenne for electrical treatment. In his account of his medical history, Beurlier reported the symptoms of his malady: “a coolness in the right thigh that lasted with continual pain,” “sciatica with sharp pains that did not leave [him] for a year,” “a sudden kidney illness that lasted three or four days,” swollen legs, “an attack of paralysis that took [him] in the night,” vertigo, failing eyesight, numbness, and another attack that caused him to walk with a limp and deprived him of the force to regulate his arm movements. Mauduyt and Halle, Beurlier’s referring physician, deemed this malady “paralysis,” a diagnosis that might strike a modern reader as a bit strange or at least incomplete. But in the eighteenth-century, a “paralytic” illness did not exclusively apply to impairments of the faculties of motion and sensation. The category of “paralytic maladies,” was much larger, extending to lethargy, comas, apoplexy, catalepsy, involuntary sleep, typhomania (a delirium common in typhoid fever), asthenia, troubled eyesight, cataracts, loss of appetite or thirst, and

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19 Hochadel, “My Patient Told Me How to Do It,” 68.

20 “Dossiers numérotés de 1 à 82, pour les années 1777-1778 et partie de 1779 (manquent les numéros 4, 8, 10 à 14, 63, 64,” ANM, SRM 118A, dossier 3.

21 Recall that the faculties of movement and sentiment were initially tied to two separate properties, irritability and sensibility, respectively, but quickly became frequently conflated.
what we would now consider sensorial handicaps (deafness, muteness, blindness, etc.). Rheumatism, gout, and missed periods even fell within the realm of paralysis, since they were potential preliminaries to the more dangerous, full-blown paralytic maladies. To return to Mauduyt’s chart above, only 62% of patients were diagnosed with “paralysis,” but if one considers the category of paralytic maladies as a whole, then the percentage rises to an astounding 100%.

“Paralytic maladies” encompassed a wide array of afflictions, but physicians agreed that they all resulted from the inappropriate movement of fluids in the animal economy, particularly nervous fluid. Disruptions in the movement of fluid could be caused by accidents like “falls on the head and back, the dislocation or fracture of the spine” or “error in the use of the six non-naturals.” (Physicians attempted to cure paralyses of both types, but it was the latter type that could be more commonly cured.) Despite their seemingly disparate nature, paralytic ailments all interrupted the faculties of feeling or movement, and they were united by the fact that they had a direct relationship to sensibility. Physicians who used medical electrical treatments directly acknowledged the relationship between sensibility and paralytic illnesses, often including notes in their treatment journals about the levels of sensibility experienced by their patients: “Antoine


26 To an extent, all maladies affected sensibility given that the body was conceived as a holistic organism, and any effect on one portion of the economy would necessarily affect the others. However, it seems that paralytic maladies were those most directly related to sensibility (“Maladie,” Encyclopédie, 9:931).
totally recovered sensibility in his legs and the movement of his toes;” “The sensibility of [the hands and fingers] seems diminished;” “His thighs have all their sensibility.” Referring to a deaf patient, one of Mauduyt’s SRM colleagues noted, “Because of her excessive sensibility, this lady was only electrified for eight days.” In their individual instances, such mentions do not provide much analytical fodder since the journal entries were usually brief. Yet the repeated presence of “sensibility” in physicians’ descriptions reinforces its status as a chief consideration, and if one considers the frequency with which the term occurs, then it seems rather significant indeed.

Taken in shorthand, one might argue that these uses of “sensibility” referred only to the physical sensations experienced by patients—the lack of sensitivity in limbs, for instance, or the inability to sense stimuli—but there are instances in the journals that indicate that physicians were using the discourse of sensibility in its full scope. For example, the sluggishness that was characteristic of the body during a paralytic illness equally affected the mind. These mind-body links became clearer after the development of the discourse of sensibility, as made evident by the medical concept of the paralytic malady “stupor.” In 1694, the *Dictionnaire de l’Académie française* defined “*stupeur*” as “numbness in some part of the body.” It was a purely physical term, having no connection to the hazy mental state that we generally associate with it. By the 1762 edition, the definition had been amended to “numbness, drowsiness, diminution of

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27 ANM, SRM 141, dossier 36; ANM, SRM 118A, dossier 45; ANM, SRM 118A, dossier 55.

28 ANM, SRM 141, dossier 36.

29 For a handful of additional instances of the appearance of sensibility in the archives, see ANM, 118A, dossiers 2, 20, 23, and 37; ANM, SRM 122A, dossier 10; and “Traitemen par l’électricité de l’abbé Mauduyt: cas de médecine pratique avec résultat des traitements, 1779-1781, quelques cas de 1784,” ANM, SRM 153A, dossier 10.
sentiment and movement.” The changes in this definition mark two important shifts. First, while stupor was still primarily a medical concept, it had gained some non-physiological implications. Secondly, sentiment and movement, the two cornerstones of sensibility, were explicitly evoked. By 1787-88, the author of the *Dictionnaire critique de la langue française*, Jean-François Féraud had added, “Some authors have recently used it in a figurative sense: ‘That which followed his death (Voltaire’s) left the wits in a stupor that approached forgetting,” and by the 1798 edition of the *Dictionnaire de l’Académie française*, two additional figurative uses had been acknowledged: “It is said figuratively for, Surprise, *We were all in a stupor*; and for the Type of immobility that throws one into sudden and violent sadness.” Over the course of the century, the term had picked up strong figurative connotations that linked it directly to mental and emotional states.

Because sensibility mediated the relationship between mind and body, if a breakdown occurred in the physical system, it was likely that one would take place in the mental system as well. For instance, Mr. Baron, a lawyer who was one of Mauduyt’s patients in the SRM trials, was described before his paralysis as being, “given to the vivacity of his genius, working with the greatest facility, aided above all by a memory so wonderful that he always surprised the people who worked with him.” His paralyzed condition caused “much confusion in his ideas,” and the treatment, which was partially successful, allegedly was able to give him ideas that were

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32 ANM, SRM 118A, dossier 38.
less confused.\textsuperscript{33} Similarly, the abbé Maudoux, one of Mauduyt’s patients in the late 1770s, frequently recorded his physical state in relation to his mental state, treating the quality of his ideas as symptoms of his illness. For instance, on December 6, 1777, he reported, “The head is clear, but the least contention scares away the ideas. The slowness, the weakness of the pulse, which is not, however, bad, seems to regulate the pronunciation.”\textsuperscript{34} Later that same day, he wrote, “The head is clear. The guts have not been free for three days, obstructing all the operations of the machine [the animal economy].”\textsuperscript{35} The abbé Maudoux, who undertook his journal of his own volition rather than at the behest of his doctor, considered his mental state just as integral a part of his illness as his digestive situation.

Edward Shorter has argued that “in contrast to fits, which are an age-old kind of psychosomatic symptom, paralysis was uncommon before 1800, increasing greatly thereafter,” but the post-1740 fascination with medical electricity and paralytic maladies suggests that these illnesses were in fact, culturally prevalent in the Enlightenment.\textsuperscript{36} Paralytic maladies, as a set of illnesses that affected sensibility, posed a threat to the holistic operation of the animal and social economies, but they also provided a means of conceptualizing medical technologies that would mitigate these threats. In other words, sensibility provided the mental framework for both the problem and the solution, and the significant sway of the discourse allowed psychosomatic conditions like paralysis, stupor, and other paralytic afflictions to gain prominence in the medical landscape. Many of these afflictions existed before, but they took on new significance and were

\textsuperscript{33} Ibid.

\textsuperscript{34} ANM, SRM 153A, dossier 15, piece 3.

\textsuperscript{35} Ibid.

newly framed as affecting the reciprocal links between mind and body, thanks to the ontological connections offered by the discourse of sensibility.

Ian Hacking has used the metaphor of the ecological niche to explain how certain illnesses arise and then disappear in certain historical contexts. Unlike Hacking’s fugue states, paralysis is still present in our modern medical lexicon, but there are several “ecological” reasons why it was of particularly acute interest in the Enlightenment. One reason, which will be developed at more length below, centered on the increasing place of physical productivity in the state’s developing conceptions of a functional society. The bodily limitations that accompanied paralysis greatly impeded the ability of afflicted individuals to contribute their labor to society, and bodies unable to move or to feel were bodies that were unable to add their talents to the social whole. Secondly, the conjoint mental and physical nature of sensibility meant that paralysis also posed a direct threat to Enlightenment social and intellectual values. According to Antoine Le Camus, paralysis left the “soul deprived of the impression [sentiment] that furnishes it with the archetypal ideas of things.” As such, paralysis constituted one of the “vices that cause the necessary level of sensibility to degenerate,” ultimately diminishing “[the senses’] utility for the Sciences and the Arts.” By affecting the ability to perceive and interpret the outside world, paralysis posed a threat to Enlightenment goals of analytical, scientific, and aesthetic progress.

Sabine Arnaud has shown that, in the eighteenth century, emotions became reinscribed in a pathological space, and the body functioned as a signifier of interior states. In a world driven

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39 Ibid.
by sensibility, possession of a functional body was the indicator of an ability to feel, rationalize, and experience properly. Paralysis, then, posed a threatening possibility. In many cases, it effectively severed the legibility of the mind-body link, creating a disjunction between internal and external signification. Victor de Sèze argued that in paralysis “the mind does not experience the irritations that it feels,” and that “sensations do not reach the mind…not because they are deprived of the sympathetic influence of other parts” or “separated from life in general,” but because of an “interception of vital commerce.” In other words, paralysis marked a breakdown in the faculty of perception, such that the capacity for feeling still existed, but it was waylaid by some fault in the economy’s operation. Restoring the proper functioning of sensibility would not only restore an individual’s health or mental capacities; it would reinstate the natural order that existed between the different parts of being. It was precisely this order that undergirded Enlightenment epistemology, medicine, aesthetics, social theory, and political theory, which meant that, without this harmony, stability was called into question across the experiential board.

The First Wave: The Académie royale des Sciences and the Hôtel des Invalides

The earliest recorded treatment of French patients with electricity was in February 1746, when the abbé Nollet, M. Morand, and M. de la Sône, all members of the ARS, electrified a paralyzed patient. Their attempts were interrupted by “circumstances foreign to the subject,” so they had to content themselves with having had only three half-hour sessions. Even after this short treatment, though, the patient reported feeling lively pains in an arm that had been

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completely insensible for thirteen years. This tentative success was enough to keep Nollet and Morand’s attention fixed on electricity as a potential curative. On April 20, 1746, Nollet read a mémoire to the Académie about the recently invented Leyden Jar, in which he claimed that electricity “could successfully resuscitate movements that are more or less forbidden in an ill part.” He proudly announced, “The experiments on multiple electrified paralytics already provide some hopes for success,” and the Académie could not “lightly abandon these outlooks for utility.” Not long thereafter, Jean Jallabert, an experimental physics professor from Geneva and corresponding member of the ARS, commenced his own series of experiments on paralyzed patients. By August of 1746, the Montpellier physician Boissier de Sauvages had joined the efforts and reported to Jallabert, “Thanks to your instructions, electricity has become all the rage in this town.” Claude-Nicolas Le Cat, the founder of the Académie royale des sciences de Rouen, wrote to Morand on September 13, 1746, that he had been treating a paralyzed young man with electricity, and that the patient was doing “better and better.” Thanks to the treatment, the young man was able to walk and lift his arm (which had been entirely without movement), and he only had some residual stiffness in the affected limbs.

Medical electricity’s popularity caught on rather soon, but it was not until 1747 and 1748 that the treatment came more strongly to the fore in the Académie. “Curious to compare the

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43 “Nouvelles Litteraires,” Journal des Sçavans (April 1746), 254.

44 Ibid.


46 “Lettre de M. Le Cat à Monsieur Morand du 13 7bre 1746,” Académie des Sciences [AS hereafter], Dossiers de séances, Nov. 1476.
difference of the effects of electricity on live and dead animals with those that it produced on paralyzed parts,” Jallabert focused his attentions on a fifty-two-year-old locksmith named Nogués, brought to him for the first time on December 26, 1747.\textsuperscript{47} Nogués’ right arm had been without feeling [sentiment] and movement for fifteen years, and Jallabert hoped that “by vigorously and frequently shaking the paralyzed muscles, one could possibly return their play to them, and make the diverse fluids freely circulate in them.”\textsuperscript{48} By January 24\textsuperscript{th}, Jallabert reported such success that “the Paralytic took off his hat and thanked me with tears in his eyes.”\textsuperscript{49} In another letter to Mr. Cramer at the ARS, Jallabert reported, “In a word, all the movements of the arm, forearm, and hand are at present subject to the orders of the will.”\textsuperscript{50} The link between the internal senses and external senses had been restored.

While there were still a number of skeptics, for the most part the Académie members were elated with these positive and “truly quick” results, and Nollet informed Jallabert on March 17, 1748, “I hasten to publish this event everywhere, and especially at the Court, where I was called 8 days ago to show some electrical experiments to our new Dauphine.”\textsuperscript{51} Hasten Nollet did, and he soon began another series of experiments on April 9. The Comte d’Argenson, a ministre d’État, secrétaire d’État de la Guerre, and honorary member of the ARS, showed his “love for soldiers and his zeal for public good” by granting Nollet and Morand permission to conduct their electrical experiments on paralyzed soldiers at the Hôtel Royale de Invalides in the


\textsuperscript{48} Ibid., 314-15.

\textsuperscript{49} Ibid., 315.

\textsuperscript{50} “Extrait d'une lettre de Mr. Jallabert a Mr. Cramer du 5 Mars 1748,” AS, Dossiers de séance, March 1748.

\textsuperscript{51} Benguigui, Théories électriques, 161.
presence of M. Munier, Médecin, and M. Bouquot, Chirurgien-major.\textsuperscript{52} Invalides was an attractive site for experimentation, not least because Morand had direct connections to the institution. He succeeded his father as surgeon-major at Invalides on May 1, 1722, and although he had moved on to a different post by the time of the experiments, he was familiar with Invalides and had played a major role in establishing the hospital as a medical teaching institution.\textsuperscript{53}

In the eighteenth century, military hospitals were among the most cutting-edge institutions for medicine, and by mid-century, many of the elements associated with the “birth of the clinic” in the 1790s were already common practice at Invalides, making it an attractive site for experimentation.\textsuperscript{54} Over the course of the eighteenth century, the state had an increasing interest in new medical technologies, and Invalides would have served as the ideal site for the “combination of innovative medical technologies with the administrative skills of the absolutist state.”\textsuperscript{55} The Hôpital des Invalides was created in the late seventeenth century as a response to state concerns about how to manage large populations of military men, demobilized veterans, and military deserters. Over the course of the century, the many veterans of Louis’ XIV’s protracted wars had become highly visible figures, often begging on bridges and getting mixed

\textsuperscript{52} Morand and Nollet, “Expériences de l’électricité appliquée à des paralytiques,” 28.

\textsuperscript{53} The brevet for Morand’s appointment can be found in SHD, GR 2 X’ 182, 76. The AS éloge says that he succeeded his father in 1727 (“Éloge de M. Morand,” Histoire de l’Académie Royale des Sciences, Année 1773 (Paris: Imprimerie Royale, 1777), 103), but the brevet seems likely to be more accurate. Regardless of the date, Morand served as a surgeon-major before being promoted to the Chirurgien-major des Gardes-françaises in 1739 and Inspecteur des Hôpitaux militaires in 1741.


up in street troubles. In 1670, Louis ordered the creation of a hospital for soldiers, partly out of a humanitarian stance and partly to check delinquency and prevent a negative public image of the royal army. The establishment, which was “saturated in the mercantilist and populationist concerns of the monarchy,” was intended from the outset be a royally sponsored institution with no private intervention. According to an ordinance registered at the Parlement de Paris on June 5, 1674, funds for the Hôpital would be drawn from payments to the treasurers general, and “no endowments or donations, no bonuses that could be made for certain persons or various causes, should be received or accepted.” This meant that the state had absolute control over the types of care given, activities implemented, and funds disbursed. Invalides was set apart from religiously funded hospitals and charitable institutions, and on a medical level, the state’s financial support meant that it exercised direct control over the types of experimental work carried out there. These state-funded military hospitals inspired a new model of care, wherein the hospital inmate was increasingly treated as a “patient.”

Contrary to earlier, piety-centered modes of charity, military care had a more “functionally therapeutic perception” of inmates: “they were there solely because they were sick,

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56 Louis XIV had established a standing army between 1640 and 1680, and by 1710, at the height of the War of the Spanish Succession, there were 360,000 troops (for a population of 21 million) (William Doyle, *The Old European Order*, 2d ed., *The Short Oxford History of the Modern World* (Oxford: Oxford University Press, 2008), 242). Because of the significant growth of the armed forces, there were a great many more veterans than there had been previously, and there was little existing institutional support for them. The status of veterans was complex, and there were a number of reasons why they were begging on the streets, often in the face of mendicancy laws that forbade it. For more on how the situation developed between the time of Henry IV and Louis XIV, see Henri-Jacques Stiker, *A History of Disability*, trans. William Sayers (Ann Arbor, MI: University of Michigan Press, 1999), 99-100.


58 Brockliss and Jones, *The Medical World of Early Modern France*, 689.

59 “Ordonnance du Roi Concernant les Invalides,” June 1674, SHD, GR 1 X° 33, piece 3.

60 Brockliss and Jones, *The Medical World of Early Modern France*, 702.
and the institution aimed to make them better.”\textsuperscript{61} The establishment of Invalides provided a means by which soldiers were cared for and kept off the streets, but it was not intended as a retirement home. Residents of Invalides were given clean housing, heating, innovative medical care, and adequate food, but they were also expected to work in the institutions’ affiliated workshops.\textsuperscript{62} Just as the programs of bienfaisance described in the last chapter sought to abolish the idleness of the poor and handicapped, so did military reforms targeting ill and handicapped soldiers. Le Jeune de Boulencourt, a rather optimistic pamphleteer, announced that through this new functional approach to patient care, “The same men who seemed completely useless [became] new athletes able to conquer the heavens.”\textsuperscript{63} Thus, in the (bitterly tinged) words of the historian Henri-Jacques Stiker, “Concentrated, interned, and transformed into productive workers—this is what the Great Century and its great king introduced for disabled ex-soldiers.”\textsuperscript{64}

The only exempt parties were soldiers who were wounded so severely that they could not work. The most numerous of these groups were the manicros, or those “who, having had the misfortune of losing the use of their members, have need of being helped and served.”\textsuperscript{65} This special class, which included paralytics, was created on February 25, 1689, when Jean Dupuy, an

\textsuperscript{61} Ibid.

\textsuperscript{62} Stiker, \textit{A History of Disability}, 101.

\textsuperscript{63} Le Jeune de Boulencourt, \textit{Description générale de l’Hostel royal des invalides, établi par Louis le Grand dans la Plaine de Grenelle prés Paris} (Paris: L’Auteur [Gabriel Martin], 1683); quoted in Brockliss and Jones, \textit{The Medical World of Early Modern France}, 689.

\textsuperscript{64} Stiker, \textit{A History of Disability}, 101.

\textsuperscript{65} “Réglement pour les Manicros et les Moines-Lays,” 9 December 1766, SHD, GR 1 Xv 10-7. The 1762 \textit{Dictionnaire de l’Académie française} specifies that the Manicrots [alternate spelling] were “the class of mutilated individuals who had lost a member,” but the réglements concerning the manicros specifically include paralyses in this class of handicaps (\textit{Dictionnaire de l’Académie française}, 4\textsuperscript{th} ed. (University of Chicago: ARTFL Dictionnaires d’autrefois Project), s.v. “Manicrot,” http://artfl-project.uchicago.edu/content/dictionnaires-dautrefois. (accessed August 13, 2011)).
armless soldier, was given four francs per month to hire another soldier to assist him. The group of *manicros* grew rapidly, and by 1713, the council declared, “The number of these sorts of invalids has grown so considerably that silver has become increasingly rare, and in order to care for the hotel, we have come to the conclusion to pay no more than forty *sols* in the future instead of four *livres* to each soldier…” Despite this reduction, expenses kept mounting, and in 1766, the population of the *manicros* was so high that the administrators claimed that there had been “abuses” of the status. The Duc de Choiseul insisted that health officers reexamine the *manicros* to make sure of the validity of their conditions. After a series of limitations, reviews, and reallocations carried out throughout the 1760s and 1770s, the class of *manicros* still constituted over 6% of the total population of Invalides, and by the 1770s, the *manicros* were deemed “onerous to the Hôtel, which had the greatest need not to multiply its expenditures.” On 28 July, 1776, their ranks were capped at one hundred members who were the oldest, the most *caduque* [null and void, in a juridical sense], and who had the most need of assistance.

*Manicros* exerted a significant financial burden on the royal coffers because of their sheer number and inability to contribute to collective work projects. With a significant portion of its residents out of commission, the state’s return on investment, so to speak, declined, and Invalides’ real operation costs mounted. Some *manicros*, like those missing both arms, would never have been able to work in the manufactories, but reformers realized that a cure for paralysis would have made it possible to employ a large portion of the *manicros* population. The

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66 “Règlement pour les Manicros et les Moines-Lays,” 9 December 1766, SHD, GR 1 X\(^y\) 10-7.

67 Ibid.

68 “Manicros et Moineslayes,” 28 July 1776, SHD, GR 1 X\(^y\) 10-7.

69 Ibid.

70 Ibid.
medical electrical treatment of paralysis, then, represented a humanitarian and medical advance, as well as a very real material advance. The financial burden that the government had taken on in becoming the sole backer of veteran care could be significantly alleviated if another royal institution, the Académie royale des sciences, could find a means of curing those soldiers who were physically unfit for work. When Nollet and Morand undertook their experiments in the late 1740s, they were doing so right after the conclusion of the costly War of Austrian Succession (1740-1748). In this context, the recuperation of veterans would have been particularly relevant.

Using a large room on the ground floor of the Hôtel, Nollet and Morand set up an electrical machine “with all the known apparatus.”\footnote{Morand and Nollet, “Expériences de l’électricité appliquée à des paralytiques,” 29.} Patients were seated “on a type of swing suspended with silk bands, feet pushed into resin cakes,” and the electrical charge generated by a Leyden jar was conducted to the patients through iron chains (Fig. X).\footnote{Ibid.} Patients “remained in the experiments two hours in the morning and two to three hours in the afternoon.”\footnote{Ibid.}
Fig. X. Abbé Joseph Sans, Plate 4, *Guérison de la paralysie par l’électricité* (Paris: Cailleau, 1778). This image is drawn from a later work by the abbé Sans, but it closely resembles the type of apparatus described in Nollet and Morand’s account from the 1740s.

Munier and Bouquet presented Nollet and Morand with twenty possible test subjects, of whom they selected four. Antoine-Matthieu Germineau, who had been one of their subjects in 1746, fell ill with an acute fever and pains throughout his body and passed away on 8 May, 1748.\(^74\) Not finding any connection between this illness and the electrical treatment, Nollet and Morand continued their experiments with the other three patients, Louis Daleur (called Saint-Louis), Antoine Bardoux (called Beau-séjour), and Sébastien Quinson (called Beaupré).

Louis Daleur was forty-nine years old and had been paralyzed on the left side of his body for three years, following a head wound on the right side. He could bend four of the fingers of the right hand halfway, but the thumb could not move at all. Nollet and Morand began his treatment on April 9th, but they ceased soon thereafter because they found his “joints to be

\(^74\) The conditions of his death are described in Morand and Nollet, 29. The date is recorded in “Décès du 1 Avril 1736 au 31 dec 1749,” SHD, GR 2 X’133.
knotted, or rather ankylosed.”

Before ceasing his treatment, the electrified arm became covered in small red spots, much like fleabites, followed by raised spots filled with a clear liquid. Happily, on the afternoon of the 12th, the two physicians noted “in the thumb a more sensible movement and perspiration on both his hands.”

The next patient, Antoine Bardoux, was twenty-seven years old and paralyzed on the right side after a shot that had burned his left eye. He experienced continual pain throughout his whole face, especially near the sinus surcilliers [the two frontal sinuses], and his hand and fingers lacked all movement and feeling. His treatments lasted for fifty days, and on May 2nd, he reported “re-feeling in the arm where he hadn’t had any feeling, especially in the shoulder of the same side, a lively jolt, which he was made to perceive externally by a very great agitation of the whole sick part [of his body].” Bardoux kept experiencing sensations in his shoulders, and his wrist and fingers began to move normally, continuing to feel jolts to a greater or lesser degree for the remainder of his treatment. In one way, these changes were indicators of success, but Nollet and Morand admitted, “All of the movements that have been mentioned in this Journal were not voluntary; they were excited by the effect of the electricity.” This fact did not sway the two men from their dedication to the method, but it did dishearten their patient, who “tired of the experiments,” and gave up on the treatment.

The final patient, Sébastien Quinson, was forty-eight years old and was electrified for forty-one days. He had been paralyzed on the left side of his body for seventeen years, and his

76 Ibid., 30.
77 Ibid., 32.
78 Ibid., 35.
79 Ibid.
illness had begun with weakness of the members. On April 16th, Nollet and Morand observed finger movements more noticeable than those of the other patients, as well as more heat in the affected parts. The following night, Quinson experienced pain throughout the entire arm, despite the fact that it had previously been without feeling. On May 28th, he developed boils similar to those described in the case of Louis Daleur, and they stopped the experiments on June 1st because Quinson, like Bardoux, became disillusioned with the process.

All told, these experiments lasted less than two months and did not result in permanently restored sensation or voluntary movement to any of the four subjects. Neither did they address the problem of the rapidly growing class of manicros. Yet, for scholars’ purposes, in addition to revealing the state’s interest in medical electricity’s economic benefits, these early experiments shed light on the significant role of pain in the restoration of the animal economy to its healthy state. From its experimental origins, naturalists recognized electricity’s particularly close relationship with pain. Upon inventing the Leyden jar, Pieter van Musschenbroek wrote to his Académie correspondent René Antoine Ferchault de Réaumur in 1746, “I would like to tell you about a new but terrible experiment, which I advise you never to try yourself, nor would I, who have experienced it and survived by the grace of God, do it again for all the kingdom of France.”

Obviously, the intensity of a shock depended on the amount of the charge and on the mode of application. Many medical electrical treatments were painless, and most existing patient reports did not indicate any undue physical pain. Yet according to the abbé Nollet, pain was one of the primary means through which electricity’s power could be experienced, and pain (and its

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relief) provided undeniable experiential proof of the existence of imponderables. Spectators could see agony leave patients’ faces and witness their ability to walk without wincing. Spectators could watch as immobile limbs were brought back to life with a sharp jolt, and they could tell through the movements of muscles that the invisible fluid was, indeed, flowing through the body. Electricity, an imponderable made visible through pain and pleasure, fit ideally with three of the dominant ideals of eighteenth-century science: empiricism, wonder, and the visibility of proof.

Pain was also a diagnostic for the success of the treatment because of its status as a foundational human sentiment. In the Académie’s 1746 experiments, writers rejoiced that the patient experienced lively pains in his arm, and in the Invalides trials, Nollet and Morand took it as a positive sign that Quinson felt pain. While such “lively pricks” were undoubtedly unpleasant for patients, doctors were heartened by them. According to the Montpellier physician Ménuret de Chambaud, paralysis illustrated the crucial role that pain played in the natural economy more clearly than any other illness, and “nothing could better prove the indispensable necessity of our senses and of pain itself for the conservation of our body than the disastrous consequences of the deprivation of sensation in touch.” Pain, as a foundational sentiment in the passional economy of sensibility, was central to the existence of the human organism, and eighteenth-century savants argued that pain directly contributed to the maintenance of good health. In his Encyclopédie article on pain, Arnulphe d’Aumont (who, incidentally, also composed the article

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Benguigui, Théories électriques, 123.

on medical electricity) declared, “Man is healthiest when he is able to perceive ideas when a change is made in his nerves,” and “thus the organ of pain is very useful, because it helps warn the soul about that which could affect the body in a harmful way.”

The ability to experience pain signified the restoration of health and revitalization of sensibility. Pain could be the first step back to a healthy animal economy.

The Second Wave: Mauduyt’s Trials for the Société royale de médecine

It is not entirely accurate to say that there were no dalliances with medical electricity for twenty-five years, but by and large, after Nollet and Morand’s experiments yielded “no healing, nor even any desired effects,” there was silence on the issue for a number of years. Hopes for medical electricity might have momentarily died out in the ARS, but they had not been entirely extinguished, and experimentation was renewed afresh in the late 1770s under the Société royale de médecine, which gained its letters patent in August 1778.

Some historians date the creation of the SRM from April 1776, when the Commission de médecine à Paris pour tenir une correspondance avec les médecins de province pour tout ce qui peut être relatif aux maladies épidémiques et épizootiques was established, but the letters patent for the SRM, as such, were not issued until 1778 when the first Commission was joined with the Commission pour l’examen des remèdes secrets et des eaux minérales.
the king, the SRM corresponded with the provinces about epidemic and epizootic diseases, discussed and managed mineral and medicinal waters, and examined remedies. Their foremost object was public health. Headed by Félix Vicq d’Azyr, a member of the ARS and one of Turgot’s appointees for the investigation of bovine illnesses, and Joseph-Marie-François de Lassone, the first physician to the king and queen, the SRM was an institution with direct political ties. Largely composed of docteurs-régent of the Faculté de Paris, the SRM met twice weekly and corresponded widely with doctors from the provinces. They had over one thousand provincial doctors on their list of correspondents, resulting in a “tentacular provincial outreach.” Thanks to the authority granted to the SRM by the state, the society was, to a large extent able to centralize medical regulations, and they had the power to verify or reject certain courses of treatment. Charlatans, illegal remedies, and unauthorized treatments did not disappear overnight, but the establishment of the SRM signaled the government’s endorsement of a single body as the arbiter of all medical knowledge.

Colin Jones and Laurence Brockliss have noted that “the science at whose altar the Society worshipped was…very much the empirically orientated, publicly useful science of the Enlightenment.” If public utility was the SRM’s deity, then medical electricity would have been a prime candidate for a Church Father. In 1778, right at the foundation of the society, the government commissioned the SRM to investigate medical electricity’s therapeutic

87 Brockliss and Jones, *The Medical World of Early Modern France*, 762-763.

88 While many of the doctors involved in the SRM hailed from the Faculté de Paris, the relationship between the two bodies was not without tension. For more, see Jan Goldstein *Console and Classify: The French Psychiatric Profession in the Nineteenth Century* (Chicago: University of Chicago Press, 2001), 20-28.


90 Brockliss and Jones, *The Medical World of Early Modern France*, 761.
applications.\textsuperscript{91} Pierre-Jean-Claude Mauduyt de la Varenne, a Docteur régent of the Faculté de Paris, was charged with the task of evaluating the treatment’s utility. The Director General of Finances, Jacques Necker, approved the project, and the king accorded Mauduyt a three-year bonus to cover expenses.\textsuperscript{92} This royal allowance, which was later extended for an additional year, meant that “patients consequently [had] no need to make any type of payment,” ensuring that they could undergo the experimental treatment regardless of financial standing.\textsuperscript{93} On a political level, this royal funding deepened the state’s control of medical treatment and granted a special status to the findings of the SRM.\textsuperscript{94} On a practical level, it guaranteed that Mauduyt could extend his trials to individuals who would have otherwise been unable to pay for their treatment. A closer analysis of the eighty-two patients who comprised Mauduyt’s first set of test subjects reveals that this financial support was not negligible, and the SRM had a significant interest in treating manual laborers.

Most of the patients were men (73\%) between the ages of thirty-six and fifty years old (39\%). In the eighteenth-century, the life expectancy of individuals who made it to age twenty (after the heavy skewing effects of infant mortality rates) would generally have fallen between sixty and seventy years of age, with obvious variations dependent on gender, occupation, and region.\textsuperscript{95} The bulk of Mauduyt’s patients fell within an age range appropriate to employment, a

\textsuperscript{91} Gillispie, \textit{Science and Polity}, 270.


\textsuperscript{93} \textit{Journal de Paris}, no. 234 (22 August, 1777), 2; quoted in Zanetti, “L’électricité médicale…,” 75.

\textsuperscript{94} Additionally, Necker provided the funds for the printing of Mauduyt’s first published report, 1779’s \textit{Extraits des journaux tenus pour 82 malades qui ont été électrisés…}, and it was distributed free of charge (Review of \textit{Extraits des journaux tenus pour 82 malades qui ont été électrisés}, \textit{Gazette de Santé}, no. 1 (2 janvier, 1780), 2-3).

\textsuperscript{95} See Alain Blum, Jacques Houdaille, and Marc Lamouche, “Morality Differentials in France During the
primary indicator that productivity was one of the main emphases of medical electrical experimentation under the SRM. This fact is made even clearer when coupled with demographic information about the work situations of the patients.

Table X. Professions/ Family Situations of Mauduyt’s Patients

Late 18th and Early 19th Centuries” Population: An English Selection 44 (1989), 172.

Expanding the age range from 15 years old—the average age when a man began his apprenticeship—to 55 years old, the percentage rises to 65%. A period of apprenticeship, followed by a multi-year stint as a journeyman, meant that a number of corporate maîtres would not have been settled down until later in life, placing the pinnacle of their careers in the age window of Mauduyt’s patients. For more on apprenticeship and the stages of a worker’s life, see Steven Kaplan, “L’apprentissage au XVIIIe siècle: le cas de Paris,” Revue d’histoire moderne et contemporaine 40e, No. 3, Apprentissages (XVIe-XXe siècles) (Jul. - Sep., 1993), 436-479; William H. Sewell, Jr., Work and Revolution in France: The Language of Labor from the Old Regime to 1848 (Cambridge: Cambridge University Press, 1980), 25-30.

This chart, which refers to the “family situation” of the patients, focuses for the most part on the professions of the men who were treated (only one woman, a midwife, was described as having a specific occupation), but there were a handful of instances in the reports when children and wives were specifically referred to in relation to the profession of the pater familias. In these cases, I have chosen to group them accordingly, since it gives at least a rough idea of the social groupings of these patients and cuts down on the number of “n/a” patient data. Only seventy-nine patients are accounted for because of three individuals whose situations were unclear.
Most of the patients held jobs that would have been threatened by the onset of a paralytic malady, with only 13% working in the liberal professions and 4% in the clergy. Only one of Mauduyt’s patients (a child) was explicitly identified as a noble, an order whose productivity would not have been considered socially necessary. The rhetoric of the experimenters further highlighted the SRM’s emphasis on restoring individuals to their trades, and often, the measure of the treatment’s success was based on whether the patient could return to work afterward.

That said, the categories marked in the above chart do not necessarily imply a particular economic status. While the majority of individuals treated were workmen and merchants, there was no uniform economic condition among this group given that the financial standing of artisans and merchants varied considerably according to their trade. For instance, artisans dealing with food supplies (pâtissiers, innkeepers, confectioners, etc.) were generally in better financial condition than those in the building or clothing trades. Furthermore, merchants from some guilds often belonged to what we would now consider the high bourgeoisie (goldsmiths, cloth and silk merchants, apothecaries, and printers, to name a few), but in other guilds, the levels of condition and wealth varied greatly. To add another layer of complication, members of a guild all held the same basic occupational title (ex: limonadier), but this term could apply equally to individuals who made or sold a particular type of good, making it unclear whether a particular

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98 In Mauduyt’s later set of patients (1784), there was a Comte, a Chevalier, and several other patients who could be identified either as nobles or wealthy bourgeois, but the majority were still workers. See ANM, SRM 11B, dossier 92.

99 For example, see “Rapport par Geoffroy, Lorry, Andry sur ce traitement: conclusion efficace pour la paralysie, utile pour les rhumatismes, pour les autres cas, les expériences doivent être poursuivies ; devrait être également expérimenté pour les écrouelles,” ANM, SRM 118B, dossier 83.


101 Ibid., 97.
limonadier was the person who made liqueurs, sold them in his shop, or both. Consequently, it can be difficult to draw definitive conclusions about the economic status of the individuals treated in Mauduyt’s experiments, despite the fact that we, for the most part, have information about their professions.

Yet there are a few factors that indicate that the SRM’s experiments were oriented toward the poor. Mauduyt’s treatment journals emphasize the poor, stating “It is truly important for all men, for the poor above all, to have to power to meet their needs, to walk, to take care of their business without being obligated to use a carriage.”¹⁰² Not all of Mauduyt’s patients were poor, but he did try to keep the funds given to him by the king set aside for those who could not afford treatment. Aware that electricity had earned the attention and the beneficence of the king, Mauduyt refused to use the state’s funds to support the treatment of those who could pay.¹⁰³ Patient forty-six, Mlle Dieu, the daughter of a prosecutor, began treatment on July 24, 1778, but her mother stopped bringing her after eighteen sessions because Mauduyt wanted 3 livres per week for the two domestics that he employed to help with the treatment. Mauduyt claimed,

This condition [for the daughter’s treatment] did not seem to me at all onerous for a person who came accompanied by a lackey and the child’s governess…It did not seem to me just to allot in such a case the king’s deniers that were destined only for the poor, four of whom are admitted free of charge right now and for whom I pay two domestics.¹⁰⁴ Additionally, the SRM experiments had a significant impact on institutions targeting the poor. For example, in 1784, Louis Bénigne François Bertier de Sauvigny, the intendant of Paris,

¹⁰² ANM, SRM 141, dossier 36, piece 72.
¹⁰³ ANM, SRM 141, dossier 36, piece 60.
¹⁰⁴ ANM, SRM 118A, Dossier 46.
initiated a project to install electrical treatment at the Dépôt des pauvres de Saint-Denis.¹⁰⁵

Finally, and certainly not least, the SRM members stated their interest in rehabilitating the poor point blank. Geoffroy, Andry, and Lorry reported, “It seems to us an incredibly advantageous gift to public good and worthy of the beneficent views of the Government that there be one or more places dedicated to large electrical treatments. The good that would result for the Poor, above all others, relative to paralysis, seems demonstrated…”¹⁰⁶

For a modern reader, it may come as little surprise that the government provided subsidies for the care of the poor, and for skeptics, it comes as no surprise that the most experimental medicine was applied to individuals from lower social strata. But there are several reasons to pay closer attention to the fact that the SRM granted paralysis so much cultural importance and dedicated so much time to the poor. The social composition of Mauduyt’s patient group reflected broader social concerns and ways of thinking. The desire to improve the lot of the poor fit within the now-familiar (if somewhat reductive) narrative that the Enlightenment sought to spread knowledge to the masses, eradicate superstition, and make progress available to all. The SRM’s extensive provincial networks not only created centralized systems of knowledge; they also stressed the importance of treating and educating the poor in all sectors of the country. After a series of treatments at the Dépot des pauvres de Saint-Denis, experimenters argued that their successes furnished “a new motive to obtain enlightenment about this very important object, whose verification seems very useful to the people, especially those of the countryside.”¹⁰⁷

According to a worldview steeped in sensibility, one of the first steps toward

¹⁰⁵ “Extraits des journaux tenus au dépôt (des pauvres) de Saint-Denis, pour les traitements électriques (de la main de Mauduyt). Berthies, intendant de Paris, a eu au début de 1784, le projet d’établir un traitement électrique au dépôt,” ANM, SRM 118B, dossier 97.

¹⁰⁶ ANM, SRM 118B, dossier 83.

¹⁰⁷ “Extraits des journaux tenus au dépôt (des pauvres) de Saint-Denis…,”ANM, SRM 118B, dossier 97.
educating the masses would be to make sure that their animal economies were properly balanced. A well-tuned animal economy needed to be ready to receive experiences, formulate ideas, and connect them through reason. If a person’s “precious storehouse” was disordered, knotted, or tense, any additional education that they received would be a moot point.

If, as Arlette Farge has asserted, “every discourse about bodies and sickness is ultimately a discourse about moeurs and order,” the SRM’s medical electrical experiments demonstrate that—at least to members’ minds and the minds of the French political administration—the two main groups that needed moral and social ordering were workmen and the poor.108 Poorhouses, military institutions, and other places of rehabilitation had long included a work component, but productivity came to the fore more strongly throughout the eighteenth century, becoming virtually synonymous with concepts of social belonging. Those who were unable to contribute were, in many ways, considered to be outside society. New medical initiatives aimed at reincorporating such individuals, bringing them into the social fold by reconfiguring their bodies and stimulating their sensible responses. The political and social aims of medical electrical experimentation dovetailed with the secular bienfaisance described in the last chapter, and reports on electrification used rhetoric like the following to extol the treatment: “The deaf woman began to hear well enough to be able to exist in society.”109 Being physically able to feel, to move, to participate in a métier, to support oneself: these were all forms of being a functioning member of society. In this light, then, the history of electricity is yet another component within the larger Enlightenment goal of ensuring that all individuals fit within the social whole and functioned properly therein. Medical electrical experiments, in both the ARS and SRM trials,

109 ANM, SRM 118A, dossier 36, piece 16.
bound medical practice more closely to state prerogatives, making it possible for the government to attribute sensible manipulation with direct financial, social, economic, and moral stakes.

Reformers shared these lofty, totalizing social concepts. Paris physician Philippe Hecquet made clear the ways in which the moral, social, political, and economic order entwined with humanitarianism in *La médecine, chirurgie, et pharmacie des pauvres* (1740):

There is in the Poor a state somewhat like the shadows in a tableau; they furnish a necessary contrast that makes humanity groan sometimes, but that honors the views of Providence….It is thus necessary to have poor people, but it is not necessary that they be miserable; these here are only the shame of humanity, those there, on the contrary, enter the [social] order and the political economy: through them, abundance reigns in the towns…the Arts flourish. With so many advantages that are derived from the poor, should they not demand that we furnish at least that which is necessary for them to bear patiently the harshness of their condition?110

The idea of the Great Chain of Being was nothing new; some were created to rule, while others had to be content with their role below. Individuals had reciprocal obligations, but hierarchies were the order of the day. Hecquet maintained the traditional notion that poverty was part of the natural order, but he injected the idea that it was possible for the poor to “enter the [social] order and the political economy” and that the arts were able flourish only because of the comforts provided by these workers. (For anyone who has read Rousseau, the connection between the development of the arts and the rise of civilization, leisure, and abundance is clear.) The chain became an economic system, and remedying the illnesses of the poor served the double function of improving their lot and improving the lot of society at large.

Arlette Farge has argued that the eighteenth-century interest in the health of workers was part of a worldview in which the “dominant members of society” felt a certain culpability for the

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condition of workers, and consequently used their power to try to ameliorate their conditions.\textsuperscript{111} “It is at this level that their responsibility and their humanism is situated,” Farge argues, “…with a sensibility that does not cause them to lose any power.”\textsuperscript{112} If one follows Farge’s line of thinking, the SRM’s interest in workers fit into the larger cultural movement of \textit{bienfaisance}, but their experiments still marked an imposition of power on powerless bodies. This interpretation is prevalent in the historiography on medical electricity, which often portrays medical electrical patients as the victims of a powerful state. Patricia Fara has argued, “In England, as in Italy, many of the early trials seem to have been carried out on servants and farm workers, who were in no position to object to becoming experimental subjects,” and “medicine in France was far less determined by patient choice because the state exerted a stronger influence.”\textsuperscript{113} Jones and Brockliss have claimed, “[New therapies, especially electrotherapy] were treatments carried out on lower-class victims, often hospital patients.”\textsuperscript{114} Generally speaking, scholars have tended to emphasize that patients in the eighteenth century “functioned…as human material for experiments.”\textsuperscript{115}

Undoubtedly, there were power differentials at play between the experimenters and patients, but from the SRM records, one receives a significantly different picture than that painted by Farge, Fara, Brockliss, and Jones. Many of Mauduyt’s patients explicitly sought his help, and while many ultimately ended up disillusioned with electrification, they desired the

\textsuperscript{111} Farge, “Les artisans malades de leur travail,” 1002.

\textsuperscript{112} Ibid.

\textsuperscript{113} Fara, \textit{Entertainment for Angels}, 93; Ibid., 97.

\textsuperscript{114} Brockliss and Jones, \textit{The Medical World of Early Modern France}, 574.

\textsuperscript{115} Hochadel, “My Patient Told Me How to Do It,” 88. To his credit, Hochadel nuances the traditional exploitative portrayal and acknowledges that most patients let themselves be treated voluntarily (Ibid.)
treatment at its outset. The mother of three-year-old Mlle Dieu brought the child to Mauduyt on the power of his reputation.\footnote{Mauduyt, “Mémoire,” 344-345.} Upon beginning her treatment, Madame Boitel wrote Mauduyt a thank-you letter for his attentions, expressing her wish that her hand, which was rather shaky, could neatly convey the sentiments she owed him.\footnote{ANM, SRM 118A, dossier 6. Even if such a letter was customary, it still implies that the treatment was not mandatory.} M. Simon, a chiseler suffering from paralysis, freely came to Mauduyt at the suggestion of M. Morizot Deslandes, a docteur-régent at the Faculty of Paris. Simon, who seems to have come of his own volition, carried a letter with him attesting to his worthiness for the free treatment: “he is the father of a family and a very upstanding man.”\footnote{ANM, SRM 118A, dossier 41.} Beurlier the engraver indicated that he had come to Mauduyt because he wanted back “the best that nature had given him,” which was “a hand sure enough to engrave.”\footnote{ANM, SRM 118A, dossier 3.} Such examples indicate that many of these “powerless” individuals were actually quite willing to be acted upon, a fact which suggests that there is little reason to construe the SRM’s experiments as part of some statist machinery bent on subjugating the bodies of the poor. Patients retained the right to stop the treatments voluntarily, even if it was contrary to the doctors’ wishes.\footnote{See case of Angenot, ANM, SRM 118A, dossier 21.} Plainly stated, it seems obvious that patients, doctors, and the state all could have received a desirable outcome from medical electrical experimentation, but this relatively obvious point has been lacking in much of the historiography on medical electricity. When it comes to scholarship on the patient experience in medical electrical trials, there is a radical
disconnect between the narratives of medical electricity and those of electricity more generally, which emphasize the public’s intense fascination with physics demonstrations.

**Conclusion: Patients’ and Doctors’ Perspectives on the Treatment’s Efficacy**

Reformers, patients, and officials had lofty expectations for medical electricity, but many of the SRM’s initiatives failed to live up to those expectations. In the 1770s, the Abbé Sans convinced the government to install electrical pumps at Salpêtrière, but in December of 1786, Vicq d’Azyr received a letter from the statesman Calonne informing him that the king had ordered new experiments at Salpêtrière to test the machines, and that the machines had proved unsuccessful in curing children’s convulsions. He wrote that he wanted to inform the SRM before reporting back to the king, but the implication was that the machines were not long for Salpêtrière.121

In 1778, Vicq d’Azyr received an anonymous series of documents that seem to be from Mauduyt. These documents assessed electricity as a treatment offering “more or less marked relief” for all the patients, “without any patient being entirely healed yet.”122 Despite the inability to achieve complete healing, Mauduyt and his colleagues, remained of the opinion that the method was sound. In 1781, Mauduyt declared definitively, “…I propose to employ, under the authority of the government, at its expense, and according to the opinion of a Company of Doctors, a remedy whose utility is proven in the treatment of paralysis…”123 Even as late as

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121 “Lettre de Calonne à Vicq d’Azyr, pour l’informer que le roi ayant ordonné de nouvelles expériences à la Salpêtrière pour constater les effets de la pope électrique inventée par l’abbé Sans, pour la guérison des convulsions des enfants, et qu’il y a peu de succès, il lui fait envoyer les p.-v. des commissaires, 7 décembre 1786; la lettre porte en note Geoffroy, Hallé, Fourcroy, Vicq d’Azyr,” ANM, SRM 118B, dossier 101.

122 ANM, SRM 141, dossier 36, piece 72.

1784, Mauduyt indicated his unflagging trust in the treatment in his journals: “I will even make mention of the cases where electricity doesn’t succeed: far from silencing them, I think that it is through their oppositions, from their parallel with the cases where it has the greatest success, that determines the knowledge we can acquire about the true worth of these effects.”\textsuperscript{124} By and large, the treatment journals indicate improvement for almost all patients who underwent lengthier treatment tenures, but it remained the case that few, and perhaps none, could be considered “healed.” The official SRM stance, then, upheld the viability of electricity as a means of treatment, even though its successes had been far from complete.

The patient response after receiving treatment was, however, much less insistent on its success. The abbé Maudoux began his experience with medical electricity hopefully, writing on January 1, 1778, that electricity had re-stimulated his salivation, and if he could get through the winter without “too large a shipwreck, [he] could touch in at the port of health.”\textsuperscript{125} By January 21, he began to express some uncertainty about the treatment, asking, “What should one attribute this change [in my eyesight] to? If it is to Electricity, it has produced real [effects], but will they be permanent and durable? The future alone can tell us.”\textsuperscript{126} By March he had announced, “I vary like the weather. One can be no more sure of me than I am of it,” and in April, he inquired, “Should [my improvements] be attributed to remedies, to electricity, to nature alone who, with time, retakes her rights when she chooses?”\textsuperscript{127} With his physical condition and faith in electricity vacillating, he announced on June 10, 1778, “Last March 15\textsuperscript{th}, Electricity deployed all her power

\textsuperscript{124} ANM, SRM 118B, dossier 92.
\textsuperscript{125} ANM, SRM 153A, dossier 15.
\textsuperscript{126} Ibid.
\textsuperscript{127} Ibid.
on me. She has not taken it back, but she also had added nothing to her first favors.”

He continued his treatment sporadically for several more months, noting on October 1st that he had another attack that had erased all the progress he had made with the treatment. This rather saddening record of the treatment stands in contrast to Mauduyt’s official report. While Mauduyt did acknowledge that “the state of M. Maudoux was not uniformly maintained and without alteration” and that “there were, on the contrary, many vicissitudes,” he ultimately argued that these “did not bring a great or long change in the good effects already produced.”

Instead, he informed and his SRM colleagues, “1º That the electricity seems to me to have remedied the paralysis as much as is possible; 2º That it had made his health less bad…. “

The case of M. Angeli shows a similarly incongruous assessment of electricity’s efficacy. Angeli kept much of his own treatment journal, focusing for the most part on the types of electrifications he underwent and the particulars of the cold feeling in his fingers. On the fourth session, the last one for which he kept a written record, he reported, “…always the same coldness in the aforementioned fingers. The thumb, index, and middle finger are still the sickest. I believe and hope however grave, a bit of patience will dissipate it all.”

Already downtrodden in tone, he continued treatment for forty-eight more sessions over the course of eighteenth months, experiencing no change in his condition. Mauduyt and his colleagues continued to tout

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128 Ibid.
129 Ibid.
130 Mauduyt, “Mémoire,” 244.
131 Ibid.
132 ANM, SRM 118A, dossier 52.
electricity as a successful method of treating numbness and stupor, but it is certain that M. Angeli did not.

In the case of the paralytic Ponsonnet, a sergeant in the Swiss Guards, Mauduyt only had the chance to administer electricity from March 16 to May 7, when all of the paralytics from his regiment were ordered to go to Bourbonne to take the waters there. Mauduyt referred Ponsonnet to M. Tailliere, médecin des eaux, for whom he had acquired an electrical machine the previous winter. In August, Ponsonnet wrote Mauduyt to assure him of his sincerest respect and gratitude, but to inform him that he was going to discontinue his treatments. “I find myself somewhat but little better,” he reported, “but I am always very tired.” Mauduyt wrote Ponsonnet a letter to try to get more information about his status, but he received a response from Blum, a major of the Swiss Guards, informing him that Ponsonnet had returned to Geneva on a pension from the king. Blum did, however, indicate that Ponsonnet’s condition seemed to have been improved by the waters. In his report to the SRM, Mauduyt admitted that he could not discern whether the healing was the effect of the waters, the electricity, or both, but he never suggested that the electricity had failed. It was clear from Ponsonnet’s letters, however, that the sergeant did not feel that electricity had been a helpful part of his cure.  

In a few cases, patient optimism did last to the end. In a shaky but legible hand, the sixteen-year-old Mademoiselle de Putte reported, “When I came, I could not use my right hand…Now I walk much better. I write with less difficulty.” But the reports of patients who continued to put their faith in the treatment were much less frequent than those that indicated some sort of dissatisfaction or who discontinued treatment prematurely. Where the SRM

134 ANM, SRM 118A, dossier 5.
expressed unflagging confidence in the method, the patient letters clearly describe its limits and failings, indicating that patient conceptions of “success” were significantly different from those of the physicians who treated them. While many patients experienced some benefit from the treatment, or at least reported having received some benefit, their conviction of the treatment’s efficacy was not always as thoroughgoing as the SRM reports alone might suggest.

This disconnect can be explained by looking more closely at the treatment journals of Mauduyt and his colleagues. In these reports, one finds a number of explanations for why the experiments did not work, but they can be boiled down to two key reasons, neither of which had to do with the treatment itself. First and foremost, they argued, if the experiments failed, it was probably due to the shortcomings of the patient. The most frequently cited reason for failure was a short course of treatment. In fact, Mauduyt even separated his journals into two sections per malady type: patients who came for a long time and those who quickly discontinued the treatment. In the cases where the treatment was not of sufficient length, Mauduyt usually noted some small signs of success that had been cut short by the patient’s failure to attend. In some cases, this was due to a patient trying to return to work prematurely, as with Beurlier the engraver. In other cases, the failure was a moral one: patients were sometimes inconstant, petulant, or lazy. Geoffroy, Andry, and Lorry confirmed this assessment, claiming,

Nine out of ten paralytics conserved for a more or less long time, and in some cases for more than a year, that which they had gained [from the treatment]. Only one woman lost nearly everything, but it is probable, due to the facts that concern her, that the loss is less

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135 I say “Mauduyt and his colleagues” because the events covered in these journals, while framed as Mauduyt’s experiments, were witnessed and signed off on by a number of other SRM members.

136 For three examples, see ANM, SRM 118A, dossiers 17, 44, and 20.

137 ANM, SRM 118A, dossier 3.

138 See the case of Villemet, ANM, SRM 118A, dossier 34.
a relapse than a marked decline of the whole person, produced more or at least as much through the moral as the physical.”

Electrical treatment had the power to inspire moral and mental effects, but in some cases, getting patients who already had deficiencies in these departments to remain constant proved difficult. One of Mauduyt’s patient was an elderly, paralyzed Swiss Guard who was electrified only three times. Mauduyt claimed to have been skeptical about the efficacity in this case from the start, given the subject’s age and “very considerable abuse” of bad wines and eaux de vie. Abuses of the non-naturals predating the treatment could directly affect the efficacy of the treatment, and to according to physicians, this was a shortcoming, not of the treatment, but of the patients undergoing it.

To do justice to these patients, keeping the animal economy in balance was a more difficult task than it may, at first glance, seem. Recall just how programmatic an existence Le Camus’ regimens required. On May 4, 1778, a female relative wrote to Mauduyt regarding Madame Boitel, one of the patients whose decline was ultimately considered to be due to moral failings. She informed the doctor that Boitel was not sticking to the regimen that had been prescribed to her, and therefore, the doctors asserted that any failure would be Boitel’s fault, not that of medical electricity. And what were Madame Boitel’s egregious shortcomings? She ate and went to bed too late, and she drank wine and liqueurs—never to excess, the relative assured—but every day, which is more than the doctors recommended. In order to have a true test of medical electricity’s efficacy, doctors needed patients who were willing to follow the letter of the law in every aspect of their lives. Considering that there are no perfect humans, the verifiability of the method seems like it would have been a virtually impossible task.

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139 ANM, SRM 118B, dossier 83.
140 ANM, SRM 118A, dossier 6.
To complicate matters, the effects of electricity on a particular body relied on the delicate balance and proportion of the animal economy. Mauduyt reported that it was necessary to continually adjust the level of electricity as the body became more accustomed to it, and he constantly struggled to find “that necessary proportion, of which I’m deprived, between the force of the remedy, which depends on that of the machine, and the temperament, age, strength, and indisposition of the patient.”\(^{141}\) While “nerves are more excellent conductors of electricity than [muscles, tendons, arteries, and veins],” their ability to convey the electrical current was still directly related to the proper balance of the animal economy and the particularities of the individual.\(^{142}\) Electricity itself could also be affected by non-natural influences, and in many instances, physicians argued that the climate impeded the proper functioning of electrical machines. François Zanetti has described electricity as “a vector of communication between the body and its environment,” and the status of electricity as both an atmospheric condition (as in the case of storms) and as a bodily one meant that climactic changes could have very real effects on the use of electricity as a medical treatment.\(^{143}\) For instance, between May 3\(^{rd}\) and 9\(^{th}\) of 1778, Mauduyt reported, “The electricity has been very weak all week, the weather very humid. These two reasons have kept our patients from making any marked progress.”\(^{144}\) In other words, nature itself could pose obstacles to the optimal functioning of electrical treatment, but doctors saw no problem with the theory that undergirded their experiments. They blamed the weather rather than the idea of electrical healing in and of itself.

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\(^{141}\) ANM, SRM 141, dossier 36, piece 44.

\(^{142}\) ANM, SRM 141, 36, piece 87.

\(^{143}\) For more on the relationship between electricity, the human body, and the atmosphere, see Zanetti, “L’électricité médicale dans la France,” 1:145-172.

\(^{144}\) SRM 141, 36, piece 43.
One could easily read this deep insistence on the viability of medical electricity in a cynical light. If the SRM members sometimes have been described as “truly considerate,” having a “light touch,” and possessed of “a serious medical talent,” they have equally been described as demonstrating “dogged assiduity,” “flagrant sycophancy,” and a penchant for vigorous lobbying and “wheed[ling].”\textsuperscript{145} Having advocated the method and sung its praises throughout the land for years, denying the value of electricity could have been a serious step back in terms of medical credibility. Mauduyt and his colleagues would have had a great deal of egg on their faces, so to speak, and such a dramatic change of opinion with one of their most public efforts could have seriously undermined their credit, both with the crown and the public.

Alternatively, one could see their insistence from a more generous light that’s more of a piece with the mission of the Society as a whole. Charles Gillispie has interpreted the SRM’s reluctance to deny medical electricity’s value, not as outright advocacy, but instead as a means of placing of confidence in the medical free market: “If physicians found electricity helpful, they would prescribe it, and it would win a place in the armory, whatever the fulminations of opponents. If they found it useless, it would be forgotten.”\textsuperscript{146} In this light, the official “time will tell” stance of the SRM toward medical electricity was emblematic of its implicit encouragement of the development of medical commerce. The SRM’s track record with approvals and consent of specific remedies shows that their regulation of medical commerce centered more on banning harmful remedies than with validating those that were novel or successful.\textsuperscript{147} Positive approvals of remedies were rare, with only one out of a possible 115 earning a \textit{brevet} between 1778 to

\textsuperscript{145} Gillispie, \textit{Science and Polity}, 200; Ibid., 199; Ibid., 202; Brockliss and Jones, \textit{The Medical World of Early Modern France}, 764.

\textsuperscript{146} Gillispie, \textit{Science and Polity}, 271.

\textsuperscript{147} Morag Martin, \textit{Selling Beauty: Cosmetics, Commerce, and French Society, 1750-1830} (Baltimore: Johns Hopkins University Press, 2009), 110.
1790, while tacit approvals, or mere tolerations of the sale, were given to seventy-one of these products. One could view Mauduyt’s stalwart approach to the medical electricity as a form of tacit approval—the treatment was not harmful, even if it was not wholly successful. Reading Mauduyt’s approach to medical electricity from this angle, it would be possible to see the SRM’s position toward the treatment as a modified version of laissez-faire: once the SRM determined that the method was not harmful, the medical market could decide whether it would survive. In the words of Mauduyt, “Time and experience will thus decide the true value of electricity, as indeed they reduce everything to its proper price.” Such a stance would surely have pleased Turgot, the enlightened minister who formed the 1776 commission that later became the SRM. Turgot claimed that the fundamental value of a good is fairly stable, but the market price, which is governed by supply and demand, fluctuates. Despite these fluctuations, Turgot argued, the market price “has a tendency to approach [the fundamental value] continually, and can never move far away from it permanently.” A similar concept of the “proper price” and the fluctuating value of electricity seems to have pervaded Mauduyt’s work, and notably, Mauduyt implied that the “true value” of electricity, which would emerge if simply let alone, was directly linked to its utility.

Finally, one could view Mauduyt’s dedication to the method from the most optimistic vantage point of all—as a conviction that derived from a sincere faith in electricity’s power. Electricity was the wonder element, capable of stirring the blood, uniting interior and exterior

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148 Ibid., 109.
151 Turgot developed a theory of subjective utility in Value and Money (1769).
matter, and bringing together the seen and the unseen worlds. Because of its potency and close connection to sensibility, its power over the body was heralded as a previously untapped source that offered a great deal of hope for a new, potent, empirical therapeutics. Physicians like Mauduyt truly believed it when they said, “we have seen among us a happy future,” and they eagerly anticipated the “happy instant when it is secured!” They had confidence that through the universal fluid of electricity, which permeated everything and circulated freely in nature and the animal economy, that they could improve the world and the French state through the manipulation of the body.

This optimism fell through on the eve of the Revolution, and electrotherapeutic disillusionment formed only a part of a wider medical pessimism. With the eighteenth-century development of a new empiricist approach to therapeutics, the door had seemed wide open for physicians to develop new, systematic approaches to treatment that were no longer dependent on God’s favorable or ill will toward the patient. But when difficulties still barred the way to successful treatments, and “with God now a distant figure, some pessimistic physicians believed failure could only be explained as the result of professional ignorance.” In this light, it seems that medical electricity may have been the last crest of medical optimism before this malaise and disillusionment set in. Electrical healing, as a practice that relied on the discourse of sensibility and took as its foundation a distinctly ameliorist approach, perfectly characterized the Enlightenment pursuit of social improvement through the conduit of the individual. The SRM was a group whose core philosophy revolved around the belief that public health was able to

152 ANM, SRM 141, dossier 36.

153 Brockliss and Jones, The Medical World of Early Modern France, 576.

154 Ibid.
provide both individual and collective goods. How could a group of physicians so inclined reject such a strong candidate for fulfilling their goals?

The truth is probably some combination of these three responses. As members of a collective with a joint epistemology and devotion to the state, each of whom also had his own private convictions, social pursuits, political aims, and scientific goals, it is difficult to assert a single answer as to why members of the SRM were so reluctant to veer from their initial support of medical electricity. Yet, as Paola Bertucci has shown, “in spite of divergences in the assessment of the therapeutic value of medical electricity, leading electrical philosophers of the eighteenth century agreed on its epistemological relevance,” and electricity, like sensibility, offered a flexible yet highly particular conception of the world that structured social and scientific investigations and crossed political and economic lines.155 The ANM and SRM trials demonstrate how sensibility functioned as an umbrella concept that allowed ontological economies (the mental, physical, and moral) to become integrated with political economic, scientific, and social imperatives. These experiments reveal that, in both cases, state motives coincided with scientific ones, and reformers stressed that sensible manipulation would yield improvements in sociability (with the restoration of feeling and mental clarity), productivity, and the application of talent. Through electricity—a new, powerful element added to the arsenal of non-naturals—reformers sought to rebuild, integrate, and animate the vital elements of society.

CHAPTER SIX
Of Rossoly and Ratafia:
Medical Commerce, Non-Naturals, and Sensible Self-Fashioning

Described as “glorious,” “very amazing,” “the Birth of Wonders,” and “an Entertainment for Angels,” electricity was a subject for universal curiosity, and it furnished “matter of speculation for philosophers, and of entertainment for all persons promiscuously.”¹ In 1760, Jean-Antoine Nollet’s public lectures drew five hundred paying customers, and other physics courses, like those of Jacques Bianchi and Jacques-Alexandre-César Charles also experienced great success.² Royalty, members of the aristocracy, and educated students often attended popular science classes, but so too did the middling sort. Scientific popularization appealed to a broad range of individuals, including women.³ Scholars have repeatedly remarked upon the way in which popular science took eighteenth-century Paris by storm, filling the imaginations of individuals from every social strata.

By the time that electricity was advocated as a medical treatment, the wonders of the fluid were already well known throughout most levels of society. In 1777, Mauduyt’s future patient M. Angeli attended a dinner party at which he had a chance to discuss medical electricity with SRM member Charles-Louis-François Andry. “I had the honor to respond that I had been electrified (but for my pleasure) for more than thirty years,” Angeli wrote.⁴ “I know people well who have at their homes little electrical machines for pleasure, for their amusement, but I think

¹ Fara, Entertainment for Angels, 49; Ibid., 106; Ibid., 145; Ibid., 3; Ibid. 21.
² Heilbron, Electricity in the 17th and 18th Centuries, 160; For more on popular science courses, see Michael R. Lynn, Popular Science and Public Opinion in Eighteenth-Century France (Manchester: Manchester University Press, 2006), 15-42.
³ Ibid., 44-46.
⁴ ANM, SRM 118A, dossier 52.
that these sorts of electricity are not complete enough to effect healings such as that hoped for.”

Angeli’s comments indicate that a robust commercial market accompanied the scientific explosion, and scientific devices became fodder for private entertainment.

Angeli did not go so far as to purchase a medical electrical machine, but other patients did. The abbé Maudoux, Confessor to the King, kept a particularly extensive diary of his treatments between December 1777 and December 1778. While Maudoux’s ultimate opinion of electricity was less than favorable, he was so convinced of its potential that he told Mauduyt’s servant to order him “a small Electricity” from the merchant that had made Mauduyt’s machine. The fact that patients began buying their own machines points to the growth, not only of a market for entertaining scientific instruments, but that of medical commerce. In an era in which all medical treatments were “over the counter,” provided that one could afford them, the lines between entertainment and medical treatment were thin. In the case of medical electrical machines, the cost was fairly substantial. In 1752, André Bourbon, an Engineer for the ARS advertised a machine adapted to medical use that could be purchased for the “modest sum of forty-five livres.” Yet it seems that the sums paid for machines later in the century, including those used by the SRM were considerably more expensive. A machine commissioned by Mauduyt in 1777 cost 10 louis (240 livres), and the Electrical Machine, Negative and Positive, of

5 Ibid.

6 ANM, SRM 153A, dossier 15, piece 36.

7 ANM, SRM 153A, dossier 15, piece 113.

8 Most machines were sold by physicists or demonstrators who then had them constructed by artisans. As François Zanetti has noted, this leaves historians few traces for figuring out the modes of production and circulation of these instruments. I include a few details in my narrative, but for a fuller reconstruction of this commerce and more description of the machines themselves, see Zanetti, “L’électricité médicale…,” 1: 304-317.

M. Nairne, which was advertised in the 1784 *Journal de Paris*, could be purchased “entirely assembled and outfitted with its medical apparatus, at M. Quinquet’s for 192 livres.” Only a relatively small portion of society could afford the convenience of having one of these machines in their own homes.

Be that as it may, the desire to purchase these machines indicates the growth of a public eager to engage in medical consumerism, and unsurprisingly, cultural awareness of these machines extended beyond the restricted audience that could afford them. Colin Jones has famously shown that medical advertisements abounded in eighteenth-century *affiches* and that the readership of these newsheets was rather inclusive, appealing mostly to the “happy mediocrity” of the middling sort, but also to servants and nobles. The men and women who perused the paper, learning about a new type of hot chocolate, the prices of grain, and the delights of various scents and soaps would have also been privy to advertisements about medical products. While the SRM explicitly targeted the poor, medical electricity’s appeal, and more generally, that of sensible manipulation, extended across social lines. By and large, the French state resisted calls for large-scale state-funded medicine, and this left France with “larger niche for the workings of the medical market-place than [did] more cameralistic policies.” The state paid increasing attention to the productivity and health of its citizens, but at the same time, citizens were taking their health into their own hands. The eighteenth-century marked a surge in

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12 For some examples, see “Arts. Inventions,” *Affiches, Annonces, et avis divers, ou Journal général de France* 129 (26 Oct 1784), 607; Caullet Deveaumorel, “Physique. Lettre à l’Auteur de ce Journal,” *Affiches, Annonces, et avis divers, ou Journal général de France* 144 (30 Nov. 1784), 670; Adam, “Physique. Autre Lettre à l’Auteur de ce Journal,” *Journal de politique et de littéraire* 25 (5 Sept) (Brussels: Province, 1775), 82. This last source includes references to a number of *affiches* that mention electrical machines.

medical entrepreneurialism and consumerism, and individuals felt increasingly confident purchasing health-oriented goods without the recommendation of a physician. Medical electricity’s ties to state imperatives and its popularity in a commercial marketplace existed in tandem, and for medical consumers, electricity was an attractive option among an increasing swell of medical delights. Sensibility certainly functioned as a language common to those “in-the-know” on medical and philosophical matters, but it also swept French culture as a whole, and any attempt to consider sensibility in its full complexity has to take other, more exoteric realms into account. This chapter will focus on one of the “vernacular” areas in which sensibility played a role: the consumption and production of beverages in the limonadier’s shop (more famously known as the café). According to the physiological tenets of sensibility, non-naturals were the key to altering the sensible system, and virtually any sensory experience could have significant effects on an individual.

In 1982, Jean-Pierre Goubert pointed to the eighteenth-century “medicalization of French society,” and subsequently, scholars like Colin Jones, Morag Martin, and Emma Spary have shown how deeply medical knowledge penetrated the public sphere. I take this “medicalization” for granted. In the same way that people today are aware of basic medical concepts, people in the eighteenth century possessed some knowledge of dominant medical tenets of the day, and that included sensibility. The power of the discourse of sensibility derived in large part from its variability, fluidity, and ability to permeate so many different spheres of life and thought. Were sensibility relegated only to those “in the know,” its power would not have

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been so pervasive.\textsuperscript{16} Rather than viewing any “popular” or “mainstream” versions of sensibility as trickled-down or watered-down versions of the concept, I take cues from Ludwik Fleck’s theories on the relationship of esoteric and exoteric knowledge in scientific practice, conceiving of these two types of knowledge as dependent on one another and influencing each other integrally.\textsuperscript{17} While sensibility was formally theorized in medical and philosophical circles, the group of people who used the language of sensibility was, on the whole, much broader. Formal theorizations of sensibility informed popular understandings of sensibility, but larger cultural currents also affected the more specialized practitioners, offering support for the concept and sustaining a \textit{Weltanschauung} where sensibility figured centrally.

This chapter will focus on how people used the tenets of sensibility to make sense of their own practices of consumption and self-fashioning. As Emma Spary has argued, “Commerce and consumption have rarely featured within histories of science except in relation to the instrument trade and the ‘popularization’ of scientific knowledge, though there has been some attention to the importance of artisanal skill in early modern scientific practice.”\textsuperscript{18} Sensibility’s highly variable economies meant that everyday experiences mattered. As Le Camus and other sensible reformers argued, sleep, emotion, food, perfumes, drinks, clothing, furniture, activity levels, and bathing — to name just a few — had significant implications for the mental and physical makeup

\textsuperscript{16} Sensibility’s cultural presence has certainly not gone unnoticed. A number of studies have discussed its dissemination through the sentimental novel and theater, and many scholars have gestured at the social potential of works by authors like Diderot, Richardson, and Rousseau. The relationship between sensibility, reader (or viewer), and reception is an important one, but this chapter seeks to treat the culture of sensibility from a less directly textual angle. For some examples of these works, see Robert Darnton, “Readers Respond to Rousseau: The Fabrication of Romantic Sensitivity,” in \textit{The Great Cat Massacre and Other Episodes in French Cultural History} (New York: Basic Books, 1984), 215-256; Julia V. Douthwaite, \textit{The Wild Girl, Natural Man and the Monster: Dangerous Experiments in the Age of Enlightenment} (Chicago: University of Chicago Press, 2002), 134-160; Wendy Moore, \textit{How to Create the Perfect Wife: Britain’s Most Ineligible Bachelor and His Enlightened Quest to Train the Ideal Mate} (New York: Basic Books, 2013).


\textsuperscript{18} Spary, \textit{Eating the Enlightenment}, 11.
of an individual. It is because of sensibility’s wide-ranging applications and implications that we must not treat the growth of medical commerce as a tangential offshoot of the growth of commercial society at large. Medical commerce and other forms of consumption were, in large part, inextricable from one another. Operating according to deep-seated concepts of the relationship between body and mind, consumers approached many of their commercial transactions as simultaneously medical ones. This does not mean that every act of consumption involved a premeditated, conscious consideration of its medical implications. Nonetheless, that knowledge was part of the mental make-up of eighteenth-century actors, and to a lesser or larger degree, it played a role in the ways they lived their lives. Thanks to the particularities of eighteenth-century medicine, consumers trusted that their choices would yield significant effects for sociability, practices of buying and selling, and the construction of identity.

Limonaderie, the Public Sphere, and the Shift from the Sickbed to the Table

In the seventeenth century, there was no shortage of establishments in which one could drink. Taverns, cabarets, inns, and guinguettes (drinking establishments outside the city’s custom barriers) dotted the urban landscape, offering refreshment to patrons of all types. Paris alone boasted an estimated 5,000 cabarets and taverns, and much of this commerce was encouraged by the crown, given the significant tax revenue that it brought in. But as the century progressed, many of these establishments gained a reputation for violence and immorality. In the 1630s and 40s, new regulations limited their hours of operation, permitted clientele, and the range of beverages that they could sell. In August 1647, marchands de vins, hôteliers, and cabaretiers

were forbidden to sell beer, cider, poiré, and other “unseemly” beverages. In short, the usual drinking establishments were permitted to sell only wine.

Unfortunately for these vendors, these restrictions emerged at the same time that the court and the haute bourgeoisie had begun tickling their tongues with the flavored eaux-de-vie so beloved by the Queen, Marie de Medici and the sweet, spicy, and exotic beverages that had trickled into France from its colonial territories. Unwilling to miss the boat on financial success, certain high-end drinking establishments subverted their guild regulations in order to vend these fashionable drinks. These enterprising fellows formed the limonadiers’ guild in 1673, and the guild received its statutes from Louis XIV in 1676. While these shops later came to be called cafés, coffee was by no means the only beverage sold. The statutes of the guild of limonadiers granted them the right to buy, sell, and make all “refreshing beverages,” which included eau-de-vie [fruit-based brandy], beverages made with tea, chocolate, and vanilla “all sorts of Spanish wines, Muscat wines, wines of Saint Laurent and Ciutat, malmsey, and all wines falling under the name and quality of vin de liqueur,” rossoly, populo, esprit de vin, “all lemonades flavored with ambergris, flavored lemonades, and other jellied waters, and ices of fruits and flowers, as well as anise and cinnamon waters, and frangipane, bitter cedar, sorbet, and coffee in beans,

20 Nicolas Delamare, Traité de la police, vol. 1 (Paris: Michel Brunet, 1722), 137 and following; quoted in Bihl-Willette, 43.

21 Bihl-Willette, Des tavernes aux bistrots, 44.

22 Despite the guild’s immediate success, its early trajectory was not an easy one. In its infancy, the guild was created, revoked, and recreated several times. (Almanach des corps des marchands et des communautés des arts et metiers de la Ville et Fauxbourgs de Paris (Paris: Chez Duchesne, 1757), 146-147.) For a fuller account of these ups-and-downs, see Spary, Eating the Enlightenment, 98-106. Spary also makes a distinction between limonadiers and distillateurs, but given that the guild was jointly titled limonadiers-distillateurs, and it’s not always clear that (or when) the selling and distilling functions were separate, I treat them as a single corporate culture.
powder, and as a drink.” They could also sell “cherries, raspberries, other candied fruits in eau-
de-vie, with candied nuts, and sugared almonds.”

In the eighteenth century, the limonadiers’ guild was one of the richest, and the demand for their goods was so high that the market seemed almost insatiable. As early as 1727, Joachim-Christophe Nemeitz informed his “readers of condition” that cafés were ubiquitous: “In Paris there are an infinite number of Cafés, truly you can sometimes find 10, 12, and more in the same street, some of which are well thought of and often visited by Princes and other great persons.” Coffee, which was perhaps chief among limonadiers’ exotic wares, was virtually unheard of in 1650, but by 1700 it had become a well-known beverage for the “trend-setting strata of society,” and by the end of the eighteenth century, its influence had spread to encompass the majority of the population. By the time the discourse of sensibility stabilized in the middle of the eighteenth century, limonadiers’ beverages were already known among wealthier segments of the population, but the most significant spread of these commodities occurred in a period in which the vernacular of sensibility was at its prime. In 1750, there were an estimated 1800 limonadiers’ shops in Paris, and by 1780, there were 2800, while there were only 2000 cabarets.

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There were many reasons for the desirability of these new spaces—including but not limited to novelty, taste, and entertainment—but their historical significance has centered on their popularity as sites for new forms of sociability. Jürgen Habermas has famously described the emergence of a new private social realm in the eighteenth century called the “public sphere,” which was carved out by new commercial relationships facilitated by the rise of capitalism.²⁸ As the market expanded beyond the framework of the home, a new form of subjectivity emerged, steeped in sentimentalism, affection, voluntariness, and unhindered expression. New goods, a primary target of this audience-oriented subjective lens, became the objects, not only of consumption, but of criticism as well. Culture itself became a commodity, opened for the first time to a broader swath of society, and as consumable goods became markers of taste, so did literature, art, music, and information.

This new sociability emerged from and facilitated the rise of a number of new social spaces, all of which have garnered their share of attention, but the coffeehouse has arguably retained the most prominent legacy, spawning a particularly large literature in early modern British studies.²⁹ With its communal tables, public newspaper readings, and eclectic clientele, the coffeehouse elegantly embodies Habermas’ three institutional criteria for these new social spaces: 1) social intercourse there tended to disregard status, 2) it promoted general accessibility to new commodities, which became the critical province of all consumers, and 3) it established

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the public as inclusive.\textsuperscript{30} Even if the practice was not always as democratic as the principle, scholars have proven quite decisively that the coffeehouse did promote new forms of sociable interaction. Patrons visited cafés to obtain or share information, read or be read to, form social links with philosophes or merchants, critique new works or have their works critiqued, and to play games.\textsuperscript{31}

Habermas’ analysis offers one of the most robust accounts of the undeniably new forms of sociability that developed in the eighteenth century, and much of the strength of his analysis rests on the fact that he effectively links social, economic, cultural, and psychological structures into a cohesive narrative. Yet Habermas’ scope was so grand that it did not account for the psychology or physiology attached to particular goods or to why, fundamentally, certain forms of sociability might have been conducive to certain commercial spaces.\textsuperscript{32} Limonadiers’ shops were more than simply a space conducive to holding bodies, and their products were not value-neutral. In the French case, the café is best understood as a limonadier’s shop, which takes into account more fully the range of beverages truly served in these spaces. A better understanding of the range of commodities available in these shops will elucidate more fully the social values attached to them. These spaces fostered new forms of sociability not only because of the type of setting that they offered, but also because of the goods that were sold there. Producers were often quite conscious of the potential medical effects of their wares, and customers frequently consumed beverages according to their individual physiologies or individual desires, assuming that collective good would result from their improved sociability. In other words, sociability began

\textsuperscript{30} Habermas, \textit{Structural Transformations}, 36-7.  
\textsuperscript{31} For more on the activities at a coffeehouse, see Melton, \textit{The Rise of the Public}, 240-7.  
\textsuperscript{32} Certainly, Habermas accounts for the type of sociability that developed there—democratic, engaged, literate, political—but he does not explain, in particular, why this form of sociability developed in relation to the limonadiers’ trade rather than in relation to other new goods, new spaces, or even transformations in old spaces.
first and foremost with the consumer, and the discourse of sensibility provided a strong yet flexible framework for understanding the relationship between commercial space and social interaction. It was the intermixture of individualized physiological considerations, commerce, and social space that made the limonadier’s shop such an ideal site for the emergence of the public sphere.

The limonadiers’ guild was quick to capitalize on the exotic ingredients that were taking the French public by storm, but given the novelty of these items, as well as the long-running and widespread tradition of alimentary medicine, the lines between commerce and medical application were not always clear. According to nineteenth-century author Pierre Duplais, “Eau-de-vie, employed at the beginning of the eighteenth century as medication, seamlessly passed to the table and soon became the favorite drink of the people.” This transition may have been a seamless one for consumers, but it does not seem to have been as simple for the producers of liqueurs, as is demonstrated by the 1749 trial surrounding the Oil of Venus. This liqueur, notable for its resemblance to olive oil and the fact that it had “neither the insipidity of syrups nor the acridness of spirits [liqueurs spiriteuses],” contained a subtle mixture of anise, chervil, caraway seeds, mace, vanilla, orange peel, brandy, water, and sugar. Invented by Bouez de Sigogne, a physician for the Cent Suisses de la Garde du Roi, the Oil of Venus was developed as an elixir, or an explicitly medicinal liqueur. Well into the eighteenth century, it was considered to be “one of the most powerful stomachics that…reestablished, through continual usage, the stomachs of

33 Pierre Duplais, Des Liqueurs et de la distillation des alcools, ou le liquoriste et le distillateur modernes, vol. 1 (Versailles : L’Auteur; Paris, 1855), 32.

the most feeble.”

It could also fortify the elderly, aid digestion, fortify the brain and the entire animal economy, regulate the menstruation of girls and women by strengthening the fluidity of the excremental humors, calm all sorts of vapors, facilitate difficult births, heal all types of colic, sooth smallpox, heal and prevent scurvy maladies, and stop seasickness. The elixir was quite popular as a medicinal agent, but because of its superior taste, fine texture, and “a name that displeased no one,” it also experienced great success as a liqueur for common consumption.

In 1749, a legal case put forth by the maîtres distillateurs et marchands eau de vie et de toutes liqueurs against de Sigogne brought the categorical lines between medicine and non-medicinal goods into question. Upon learning that Sigogne had been selling this liqueur, the maîtres, represented by Jean Moraine, François Poisson, and Gilles Curé, claimed that its production and distribution contravened their statutes. On June 16th, based on these complaints, the police discovered a “considerable quantity of bottles” of the Oil of Venus in home of Marie Catherine Ruelle DeLaFerté, who lived on the Rue des Fossez St. Germain de Pres. The police locked all the offending bottles in a room and took the key, reporting that the plaintiffs were content and satisfied that this merchandise was safe “under the hand of justice.”

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35 “Par privilège exclusif, permission & lettres-patentes du Roi, enrégistrées au Parlement de Paris,” Mercure de France (Feb. 1766), 212. Some disagreement existed about the identity of the inventor of the huile. According to Jean-Elie Bertrand, the famous distiller Jacques-Francois deMachy claimed that the inventor was named “Bouillerot” and that he was the son of a tanner. When he became successful, he changed his name to M. Cignone. Bertrand, having researched the case in Dejean’s Traité raisonné de la distillation and in La chimie du goût (Polycarpe Poncelet’s work, discussed in Chapter Two), claims that this name change never existed, and that M. Cignone was, in fact, a physician (Jean-Elie Bertrand, Descriptions des arts et métiers, vol. 12 (Neuchatel: Imprimerie de la Société Typographique, 1780), 351.).

36 “Par privilège exclusif, permission & lettres-patentes du Roi, enrégistrées au Parlement de Paris,” Mercure de France (Feb. 1766): 212.

37 Bertrand, Descriptions des arts et métiers, 12: 351.

38 “Causes jugées au Conseil de Police: infractions aux règlements des communautés d’artisans et de marchands, engagements forcés, commerce de livres prohibés, etc., 1748-1752,” Archives nationales [hereafter AN], AN Y9523\# 1749.

39 Ibid.
Yet on the morning of July 4th, they discovered that Sieur Sigogne, with the help of a lawyer named Fleury and another individual named Crocheteur, had snuck into the room (probably through a window), and absconded with a number of the bottles.

In the wake of this case, it seems that the disputes over the production and sale of Oil of Venus continued in steady measure. In the 1760s, one Sieur de Sigogne, the nephew of the aforementioned physician, testified that he was the sole possessor of the privilege to the Oil of Venus. He submitted his elixir to the King’s First Physician, who verified its medical efficacy, and on February 1762, the King accorded letters patent for an exclusive privilege for the composition and sale of the Oil. This privilege, verified by two deans of the Paris Faculty of Medicine, firmly situated the Oil within a medical framework instead of the solely commercial one that would have been the recognized province of limonadiers or distillers. Yet it did little to defend against dedicated guildsmen for whom the allure of profit was too great. In a separate arrêt in September 1762, Parlement issued a public announcement concerning the punishments that would be incurred if anyone dared to counterfeit the beverage, yet two years later, in 1764, two individuals were arrested for precisely that reason. In 1764, Sieur Onfroy, a Parisian distiller advertised an Oil of Venus that “differed in no way from that of Sigogne.” By 1766, it was clear that counterfeit versions of the Oil, made and sold by distillers, were still in circulation.

40 “Par privilège exclusif, permission & lettres-patentes du Roi, enrégistrées au Parlement de Paris,” Mercure de France (Feb. 1766): 211.

41 L’Avantcoureur reported in 1763 that “The Oil of Venus of the late Sigogne has taken such favor in the public, as much because of its agreeable taste as because of its salutary properties, that…[it is] truly rare and sold very expensively.” The price was either 15 livres, 8 livres, or 4 livres, depending on size (“Distillation,” L’Avantcoureur 30 (25 July 1763): 473).

42 “Par privilège exclusif, permission & lettres-patentes du Roi, enrégistrées au Parlement de Paris,” Mercure de France (Feb. 1766): 212.

The *Mercure de France* advised consumers, “There are many people who interfere in counterfeiting and selling the Oil of Venus; the Public is advised that the true one is sold only by Sieur de Sigogne. There is a label signed by…Sigogne, with his stamp, on each bottle.”\(^{44}\) By knowing the signs of the original product, buyers could be certain of consuming the authentic beverage and supporting its true privilege-holder.

The case of the Oil of Venus reveals only one contested commodity, but it is illustrative for several reasons: 1) it demonstrates how certain goods spread from specialized contexts like luxury or medicine into broader, more regularized forms of mass consumption; 2) more specifically, it shows how thoroughly the lines between medical commerce and other forms of commerce were blurred; and 3) it marks the increasing attempts of medical authorities and the government to tamp down on counterfeit practices and to regulate new goods that were increasingly being manufactured beyond traditional guild privileges. Because of long-standing associations of perfume and beverages with medicinal applications, the lines between table and sickbed were already highly ambiguous, but the circumstances of the creation of Oil of Venus added even more confusion to guild limits. Purportedly, Sigogne had been able to develop the liqueur’s oily consistency through the proper application of pharmaceutical knowledge, which would ally its creation closely with both distillation and the apothecary trade.\(^{45}\) Additionally, the sale of many of the ingredients required for the liqueur would have been the province of *épiciers* [grocers], of whom there were two types: merchant grocers and apothecary-grocers. In some instances, these guilds could even overlap in the same individual; Alexandre Procope, the son who inherited the famous Café Procope, tacked onto his title of *limonadier* that of *marchand*.


\(^{45}\) Bertrand, *Descriptions des arts et métiers*, 12: 352.
d’épices, which “would have been of some importance financially to Alexandre,” since it would place him “in a position to buy spices for his liqueurs, aromatic waters and medicinal beverages.”

Add to this confusion longstanding claims of corporate infringement leveled against the épiciers by the Communauté des Maîtres Vinaigriers, Verjutiers, Moutardiers, Distillateurs, Vendeurs d’Eau-de-Vie et Esprit-de-vin, as well as territorial disputes between the vinaigriers and the limonadiers, and it’s easy to see whence came the confusion. In more concrete terms, the same products (e.g., anise, vanilla, brandy, etc.) would have been directly implicated in the goods and services of at least four different guilds.

Overlapping guild privileges were not new to the eighteenth century, but the era did mark the significant growth of the consumer market, with the middling sort and lower classes alike consuming goods that had previously been within the purchasing power of a small aristocratic elite. The scramble to satisfy consumer demand within a newly expanded market complicated pre-existing guild conflicts, and the potential for profit tempted certain guilds to encroach on the privileges of others. The ambiguity of new goods, most of which had no precedent within the statutes of any guild, made these conflicts even more acute and helped muddy the boundaries even further. New materials, an expanded market, profit motive, and the pre-existing vagaries of

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47 For examples of such overlapping claims, see Delamare, Traité de la police, 3: 459, 460. The precise disputes between these guilds are not my focus for this chapter; I am more concerned to demonstrate the unclear lines between medical commerce and luxury commerce. For more on the former issue, see Emma Spary, “Liqueurs and the Luxury Marketplace in Paris,” in Materials and Expertise in Early Modern Europe: Between Market and Laboratory, eds. Ursula Klein and Emma C. Spary (Chicago: University of Chicago, 2009), 225-255.

48 For more on these overlapping privileges, see Spary, Eating the Enlightenment, 149.


50 Ibid., 233. Fairchilds uses the case of stocking production to demonstrate how these guild conflicts played out (233-235).
guild restrictions all made for the perfect storm, such that the lines between these various guilds, as they pertained to the new beverages, were all but illusory. Had the resultant beverages been radically different, perhaps the shared raw materials would not have been such an issue, but when apothecaries, vinegar-makers, épiciers, and distillers were all legally permitted to distill wine into brandy, and when many apothecaries’ syrups were similar to those being sold in cafés, the distinction between medicine and luxury became a largely discursive one. What, both consumers and producers, may have asked, was the difference between buying lemon syrup at an apothecary’s shop and buying a similar lemon syrup at a limonadier’s shop? Or, on the flip side, if it was widely known that beverages like the Oil of Venus were desirable both for their healthy effects and for their delicious flavors, what was the difference between producing a tasty concoction explicitly for its salutary effects and producing a salutary beverage for its excellent taste?

Limonadiers were familiar with the medicinal properties attributed to many of their wares, and some even marketed their goods explicitly along medical lines. For example, the master distiller François-René-André Dubuisson published a treatise in 1779 entitled L’art du distillateur et marchand de liqueurs considérées comme Alimens médicamenteux. Relying on the pharmacopoeia of Nicolas Lémery, Dubuisson, argued that the animal economy could be maintained through the judicious consumption of beverages, provided that consumers relied only on products crafted by practitioners whose sensibility was in good order.\textsuperscript{51} Increasingly, the lines between medicine and limonaderie became even less clear as medical authorities began to regulate “medicinal” products that were also deeply implicated in the market of luxury goods. Throughout the 1780s, the SRM maintained a register of the judgments they made concerning

\textsuperscript{51} François-René-André Dubuisson, L’art du distillateur et marchand de liqueurs considérées comme Alimens médicamenteux (Paris: L’Auteur, Dubuisson Fils, Cusin, 1779), 81.
remedies presented by individuals seeking official approval. Among these, one can find a variety of teas, chocolates, liqueurs, and tisanes, many of which were submitted by distillers, limonadiers, épiciers, and physicians. In 1788, Demethon, a limonadier, submitted a recipe for a “digestive essence” that he claimed would reheat the stomach, awakening functions that could aid digestion. Along with his recipe, Demethon submitted certificates from multiple physicians assuring that they had used the essence with success, but ultimately, the SRM concluded that it was not distinct enough to merit a special privilege.52 In 1781, a distiller named Vandertaclen presented a recipe for “Punch syrup,” which Geoffroy and Andry felt “[did] not differ from that which some French pharmacists prepare for their use, except in having added some aromatic substances frequently used in Medicine, that make it more pleasant.”53 But because of its potential utility and lack of harmful substances, Vandertaclen was granted permission to distribute his syrup. Not only do these cases reinforce the claim that limonadiers were familiar with the medical potential of their wares, but they also demonstrate the emergence of a joint medical-commercial prerogative. Physicians, by insisting on a seal of approval for medicinal products, reclaimed certain forms of knowledge as their territory; commerce was made increasingly subject to the evaluative eye of the medical establishment. But on the other hand, limonadiers and individual inventors found new license in the approbations granted by the SRM to market their wares as healthy, safe, or novel. Expert knowledge increased the legitimacy of a producer or the value of a particular good.

52 “Registres contenant le jugement de la Société royale de médecine sur les remèdes et les différentes préparations qui lui ont été présentés,” vol. 2, Académie nationale de médecine [hereafter ANM], SRM MS 15.

53 “Registres contenant le jugement de la Société royale de médecine sur les remèdes et les différentes préparations qui lui ont été présentés,” vol. 1, ANM, SRM MS 14.
The SRM was not wholly opposed to this new “publicist medicine,” and many of its members were among those making a new name for themselves in the public sphere, but as the medical marketplace developed, it became increasingly important for the Society to lay a strong claim to its role as the ultimate authority on public health. On one front, the SRM embarked on a crusade against charlatanism and developed a more stringent process for the authorization of remedies. Brockliss and Jones have shown that there was a significant gap between the SRM’s desire to police medicine and their ability to do so thanks to the “political and institutional matrix of Ancien Régime society…the continuing insouciance of many local authorities, and…the growing power of the medical consumer.” Yet this gap should not be interpreted as an outright failure. Perhaps paradoxically, the SRM’s intervention in the medical marketplace actually stimulated the market’s growth. Aspiring medical entrepreneurs submitted their inventions and remedies to the SRM, hoping to acquire a seal of approval from the venerable body. Inventors and salesmen were keen to label their products as having the official endorsement of the SRM—so much so that the SRM had to tamp down on marketers claiming approval where they had received none, a practice that catered to a public faith in science and the expert authority of a respected body of physicians.

By making themselves the arbitrator of commercial privileges, the SRM inextricably bound itself to the consumer market, and shoppers eagerly looked to them for advice on which products were most conducive to health and hygiene. Their system of approvals catered to a

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54 For more on the fuzziness of the line between publicist medicine and noncommercial medicine, see Jones, “The Great Chain of Buying,” 32-34.


56 Ibid., 775.

57 Ibid., 776.
public faith in science by creating an expert authority out of a respected body of physicians.\textsuperscript{58} By maintaining and strengthening their status as a regulatory body of experts, the SRM cemented their ties, not only to the crown, but also to the commercial sphere. According to Morag Martin, the specialist knowledge that surrounded the sale of cosmetics “gave women a means to reclaim beauty practices for themselves,” and “the doctor in the cabinet de toilette was an ally rather than an enemy, a qualitative addition to books of endless and undifferentiated recipes by perfumers.”\textsuperscript{59} It is likely that the consumers of limonadiers’ wares similarly found an ally in the emergence of specialist knowledge and felt themselves increasingly prepared to prescribe, imbibe, and enjoy the beverages that would help render them perfect.

\textbf{Manufactories of Mind: The Consumption of Goods in the Limonadier’s Shop}

According to Jacques Savary des Brûlon’s \textit{Dictionnaire universel de commerce} (1723), “the cafés of Paris, for the most part, are nooks magnificently adorned with marble tables, mirrors, and crystal chandeliers, where many respectable people of the Town assemble as much for the pleasure of conversation and to learn news as to drink this beverage.”\textsuperscript{60} Indeed, the splendid fixtures of the café, those elegant elements that featured so prominently in Procope’s shop, became some of the central features of the limonadier’s boutique. Louis-Sébastien Mercier noted that while “the Prosecutor’s Clerk sleeps in the attic” and “the Notary’s Clerk is lodged worse than the housemaid,” the “\textit{Garçon Limonadier} has a beautiful boutique as his bedroom.”\textsuperscript{61}

\textsuperscript{58} Martin, \textit{Selling Beauty}, 118.

\textsuperscript{59} Ibid., 108; Ibid., 116.


\textsuperscript{61} Louis-Sébastien Mercier, \textit{Tableau de Paris: Nouvelle édition, corrigée et augmentée} (Amsterdam: n.p., 1789), 11: 44.
Much like the restaurants that appeared later in the eighteenth century, these early cafés were spaces dedicated to the display of delicacy, and increasingly, sensibility.  

The refinement of the interiors of the first cafés mirrored the refinement of their illustrious patrons. From its origins, the limonadier’s shop earned a reputation for elegance, refinement, civility, and manners, as opposed to the turbulent, violent, “ignoble and plebian” setting of the tavern. Daniel Roche has argued “The café, Parisian or provincial, offered its customers an ordered décor, free warmth from the stove, a civilised space. Two kinds of life became organised—lively and festive in the tavern, less tumultuous, a realm of controlled leisure in the café.” By mid-century, this distinction was grossly blurred, and while limonadiers’ beverages were still beyond the reach of some individuals, they were no longer the exclusive province of wealthy consumers. But even after their customer base expanded, limonadiers’ shops managed to retain their refined associations. “Put a wine merchant side-by-side with a lemonade merchant,” Mercier opined in the 1780s, “the difference is immense. The first is dirty and libertine; the second has the air of being on the verge of good company.”

While this original association with luxury helped the shops gain their air of “good company,” it was not the sole reason that they had a lasting legacy as urbane, engaged centers of social commerce. The anonymous author of the article “café” in the Encyclopédie, described the

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64 Ibid. Emma Spary has argues that the café stood apart from taverns, cabarets, and other contemporary eating places in three ways: “the centrality of exotic luxury ingredients to its wares, its respectability among members of a polite urban elite and the inclusion of learning among the entertainments it offered” (Spary, *Eating the Enlightenment*, 106).

shops as “establishments in which the use of coffee has taken place: one takes all sorts of liqueurs there. They are also manufactories of mind, as much good as bad.” It’s easy to read this statement metaphorically, given that the great wits of the Enlightenment frequently gathered in limonadiers’ shops, but given the intensity of debate about the medicinal properties of many of the exotic substances sold in these shops, it is not likely that this anonymous author was speaking figuratively about the power of cafés to transform the mind. Under the discourse of sensibility, the mind, body, and morals could be easily and quickly altered with the proper intake of the non-natural elements in limonadiers’ wares. Doctors were not the only individuals who acknowledged the transformative powers of limonadiers’ wares. Philosophers, poets, playwrights, and consumers more generally also described the potential effects that these beverages could have on minds and bodies. Montesquieu’s fictional Persian traveler Usbek reported that “There is one [café] where they prepare coffee in such a manner that it makes those who drink it witty [donne de l’esprit].” Pierre-Louis Moreau de Maupertuis’ brother, the Abbé Louis-Malo Moreau de Saint-Elier, wrote a treatise on the communicability of illness and passions that emphasized the power of eau de volet [lily pad water; probably made using water lilies] to extinguish the passion of love by changing the oscillations and tones of fibers. Père Polycarpe Poncelet included sections in his Chimie du goût et de l’odorat (1766) on the virtues of various libations, noting both their physical and mental effects.


68 Louis-Malo Moreau de Saint-Elier, Traité de la communication des maladies et des passions (La Haye: Jean Van Duren, 1788), 70-71.
According to Daniel Roche, “For a long time, the thing was to unite sympathetically particular foods with the body’s needs,” and by the seventeenth century, thinkers like Olivier de Serre, Liébault, and Estienne had “integrated these principles of healthy and balanced eating into a catalogue of the virtues and norms of domestic economy. Lists of products and plants were drawn up, their use being dictated by botanists and doctors.” Such long-standing liaisons between medicine, botany, and domestic economy meant that eating according to specific bodily needs was by no means a novel concept for eighteenth-century consumers. Philippe Sylvestre Dufour, a merchant who composed a lengthy late-seventeenth-century treatise on coffee, tea, and chocolate that he deemed indispensable for “those who love their health,” claimed that knowledge about the properties of certain foods required very little specialized knowledge: “It’s not necessary to be a Galenist or a Chemist to know that eau-de-vie, pepper, wine, and spices heat us up, and that to the contrary, chicory, lettuce, water, and a simple tisane refresh us.” Many of the medical associations attached to particular foods and beverages would have been in common circulation, and consumers would have been familiar with the long-running debates over exotic beverages like coffee, tea, fruit liqueurs, etc. (Recall that major elements of the discourse of sensibility were in circulation prior to its stabilization in the mid-eighteenth century. Galenic medicine obviously had a rather lengthy history, and the non-natural elements would have been understood to affect one’s health prior to the mid-eighteenth century. Yet the conception of the individual as a truly holistic entity—not only with the body operating as a


70 Philippe Sylvestre Dufour, Traitez nouveaux et curieux du café, du thé, et du chocolate; Ouvrage également nécessaire aux Medecins, et à tous ceux qui aiment leur santé (La Haye: Adrian Moetjens, 1685), 70.
holistic unit, but also with the various ontological realms of body, mind, and morals existing in tandem—was a mid-eighteenth-century development.\textsuperscript{71}

Information about the effects of limonadiers’ beverages circulated widely and freely. Affiches, treatises, word of mouth, labels on the goods themselves (as with the Oil of Venus), and official endorsements were only some of the means by which consumers would have learned which beverages would be best for their constitution. This information was so plentiful that plays even poked fun of the deluge. In a scene in \textit{La Foire des Poètes} (1730), a play by Jean-Antoine Romagnesi and Dominique [Pierre-François Biancolelli] that was performed at the Comédie Italienne, two singing poets debated the merits of coffee and lemonade.

\begin{quote}
A singing Poet. It is you [coffee], lovable beverage that reanimates all minds. Immediately after we have taken you, we speak the language of the gods….

First Poet. I maintain that coffee is harmful to health. Boy, bring me lemonade.

All. Coffee is harmful to health?

First Poet. Yes, sirs, I will show you through physical reasoning.

Second Poet. And I, Monsieur, will prove the contrary geometrically.

First Poet. Let us reason from one principle: it causes insomnia.

Second Poet. I say that it causes sleep.

First Poet. Sirs, mark well what Monsieur just said, that coffee causes sleep. You see that it acts in a different manner and according to temperament; let us draw a conclusion whether it provokes sleep or troubles it, whether it relaxes the senses or wakes them up, its effects are still prejudical since it makes the blood circulate too rapidly, or it coagulates it; thus I compare it to Tarantula or to Opium.

Second Poet. A conclusion very wrongly drawn. I call it the universal Vehicle; if it finds the mass of the blood obstructed, its sharp points are so many lines that divide the collateral humors; if the mass of the blood is overly fluid, it fills up the voids with a viscous matter that thickens it.\textsuperscript{72}
\end{quote}

The first poet’s arguments about coffee’s effects on the blood would have been a common refrain, and they extended to a great number of the other beverages in the limonadier’s

\textsuperscript{71} For more on the emergence of the discourse of sensibility, see Chapter Two.

\textsuperscript{72} Jean-Antoine Romagnesi and Dominique [Pierre-François Biancolelli], \textit{La Foire des Poètes}, in \textit{Le Nouveau théâtre italien, ou Recueil général des comédies représentées par les Comédiens Italiens Ordinaires du Roi, Nouvelle édition}, vol. 8 (Paris: Briasson, 1753), 12-14. Found thanks to Emma Spary, who treats this selection in pages 128-129 of \textit{Eating the Enlightenment}. 249
repertoire. In his *Essai phisique sur l’oeconomie animale*, physician François Quesnay explained that of the six primary elements—the four classical elements (air, fire, water, and earth) plus two additional corpuscles (salt and oil)—fire was the first motor of the organism.\(^73\) Fire fueled all the other material elements, and the presence of fire elements created vibrations within the body, and more specifically, in its smallest constituent parts: the fibers.\(^74\)

While the *limonadiers* did sell cooling substances like ices, most of their products contained elemental fire. Distilled waters [*eaux distillées*] composed a major category of their products. Some of these waters were simply that: beverages made from aromatic plants brewed with a base of hot water. Others were *eaux spiriteuses*, or “spirited waters,” which were brewed with a base of liquor or wine. *Eau-de-vie* was the term used for ardent and phlegmatic spirits, which one then mixed with water, sugar, and an aromatic substance that could appeal to both the senses of taste and smell. The result was a *liqueur forte*, which was alternatively known as a *liqueur spiriteuse* or, quite simply, *liqueur*.\(^75\) Generally speaking, liquors were the fieriest of substances. Such intense heat had the effect of loosening fibers, particularly those of the brain. In excess, fire elements could create a “looseness that would no longer permit [the membranes and conduits of the brain] to regain their first action by themselves,” but taken in moderation, the heat from liquors could be “very fitting for man.”\(^76\) This looseness made fibers vibrate more readily in response to sensation, and it could help the mind forge new, creative associative links.

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\(^74\) Ibid., 16.


Because of the medicinal properties attributed to the various aromatic, herbal, and fruity ingredients involved in the vast array of liqueurs available at limonadiers’ shops, each spirited concoction was supposed to yield different effects. For instance, lemon could ease a wounded imagination, and orange-flower water was highly effective in ameliorating hysteric maladies, stomach weaknesses, and delayed menstruation.\textsuperscript{77} The \textit{eau de Mélisse des Carmes}, a citronella grass liquor originally manufactured in the seventeenth century by Parisian Carmelite monks, possessed “the power to excite the memory, dissipate melancholy, and ward off hypochondria,” an illness that was associated with “extravagant and bizarre” men.\textsuperscript{78} Thus, the heating properties of liquors were not isolated from other anticipated effects, which would have been particular to the aromatic ingredients. While many of these ingredients could also be found in non-alcoholic versions, the heating properties of the liquor facilitated the circulation of these medicinal substances, such that they “possess[ed] all the virtues of the [non-alcoholic waters], and even a superior degree.”\textsuperscript{79}

Coffee was also fiery, but its intensity was moderate. Scholars have extensively covered coffee’s perceived effects, but any analysis of the café would be significantly lacking without at least passing acknowledgement of the virtues and vices attributed to the most cerebral of the limonadier’s libations. Wolfgang Schivelbusch, focusing primarily on coffee’s place in Protestant English culture, has described the puritanical values ascribed to the beverage as a


\textsuperscript{78} \textit{Dictionnaire de l’Académie française}, 4\textsuperscript{th} ed. (Paris, 1762), s.v. “hypocondre.” The \textit{eau de Mélisse des Carmes} was extremely popular throughout the eighteenth century, and in 1765 alone, its sale brought in an estimated 20,000 \textit{livres}, marking a healthy demand and making it a rather lucrative product for \textit{limonadiers} (Dousset, \textit{Histoire des médicaments}, 407).

\textsuperscript{79} “Eaux distillées,” 5:198.
symbol of sobriety and sexual continence, traits which he argues made coffee “an ideologically freighted drink,” whose associations with “rationality and accountability characterize the bourgeois spirit that was behind [the rationalistic viewpoint pervasive in philosophy and material life].” Coffee, as a beverage endowed with the traits of sober rationality, paralleled the new form of sociability attributed to the coffee house: temperate, cerebral, and reason-centered.

Jules Michelet, writing about the rise of the café in the eighteenth century, described coffee as “the sober liquor, powerfully cerebral, which, contrary to spirits, augments clarity and lucidity.” Coffee’s eighteenth-century advocates would have approved of this assessment, as Emma Spary has shown in her recent work. She writes, “while both coffee and wine shared the power to stimulate creativity, coffee was also credited with counteracting the drunkenness produced by wine.” In this light, Michelet’s epithet of “sober” was particularly apt, given that, after being taken upon inebriated flights of fancy by wine or the various liqueurs on offer at a limonadier’s shop, consumers would often indulge in coffee to bring themselves back to reason. Coffee had the unique power to “immediately sober up” anyone who wasn’t “drunk to the last degree,” and thanks to the oil and volatile salt in its composition, it could “rarify the humors and reanimate the idle spirits in the brain to excite them to waking.”

Thus, unaided, coffee could stimulate one’s mental fibers and faculties, increase one’s capacity for wit, and inspire new associations of ideas. Taken in conjunction with liquor, one could be transported to castles in


83 Dufour, *Traitez nouveaux et curieux*, 104; Ibid., 85.
Spain without fear of being drawn too deeply into the perils of imagination. Coffee was one’s tether to the sober, rational world.

Jan Goldstein has described the perceived threat of imagination in the latter half of the eighteenth century, explaining that, particularly within a sensationalist framework, imagination was perceived as a potentially destabilizing faculty, which could cast into disarray, not only the order of the mind, but that of society itself.\(^\text{84}\) In a sensationalist system, in which individuals’ psychology was directly dependent on the interplay of internal and external factors, Goldstein shows how socioeconomic discourse reflected anxieties about the relationship between the individual and the collective. For example, Turgot’s 1776 edict regarding the dissolution of the corporate structure, posed the threat that “each artisan will regard himself as a solitary being, dependent upon himself alone and free to indulge in all the flights of an often disordered imagination.”\(^\text{85}\) When viewed through the lens of the discourse of sensibility, consumption practices in limonadiers’ shops illustrate similar concerns regarding the relationship of the creative, imaginative, and free-thinking individual and his place within a reasonable, civilized, and controlled collective. A song written in praise of coffee commenced,

If you want to easily
live in good health
seven days a week
drink good coffee;
Will it protect you from all illnesses?
Its virtue will chase them, la la
migraine and fluxion [the flow of malignant humors to a part of the body], don don
and melancholy.\(^\text{86}\)


This reference to coffee’s triumph over melancholy was not idiosyncratic; melancholy, as a cold temperament, could withstand and benefit from the elemental fire within coffee. Melancholy, of all the temperaments, was most closely related to a retreat into self: “This delirium is most often joined to an insurmountable sadness, a somber mood, misanthropy, a decided penchant for solitude…”87 Coffee, thus, not only contained the power to spark creativity, make one alert to reason, and awaken wit; it also had the power to soften the solitary tendencies of the melancholic individual by warming his blood, restoring him to society, and making him more disposed to good humor and happiness. The tether to reason was also a tether to the collective. Habermas’ new bourgeois values took root, not just in the possibility of consumption, but in the symbolic character and perceived physiological effects of the goods themselves. In the case of coffee, the management of the mind clearly went hand-in-hand with the management of the social atmosphere, and perhaps it is this precise fit between the properties of coffee and those of the type of sociability favored by consumers that made the terminological transition from the limonadier’s shop to the café such a rapid one.

Chocolate, another popular beverage in the limonadier’s shop, also contained elemental fire, but its heat was much more gentle. In fact, it was so weak that for a number of years, physicians considered it a cold substance because of the fatigue, heaviness, and difficult digestion that some drinkers experienced.88 In order to warm it up, many producers added


88 “Suite de l’extrait des observations sur le Cacao et le Chocolat; seconde partie,” Journal Oeconomique (April 1772): 164. For an example, see George Volcamer’s Treatise on Chocolate, summarized in a review in The History of the Works of the Learned, Or, An Impartial Account of Books Lately Printed in all parts of Europe, vol. 12 (London: H. Rhodes, A. Bell, D. Midwinter, January 1710): “The quality M. Volcamer ascribed to Cacao, is, that
heating spices like cloves, vanilla, and cinnamon, but by the mid-eighteenth century, physicians, naturalists, and pharmacists reached the consensus that chocolate had the power to impart heat, and consumers were advised against adding too many additional fiery substances. Indeed, writers insisted that consumers were in charge of their own health, and articles in popular publications helped inform the public about how to prepare and buy their beverages. An anonymous writer for the *Journal oeconomic* opined that “We are, ourselves, uniquely charged with familiarizing ourselves with the conditions that chocolate should have in order to be truly good in all respects.” In order to prevent readers from buying poor quality chocolate or from having “their economy poorly extended,” the journal’s editors suggested a price range suitable for good quality chocolate, and they based their judgments on Antoine Baumé’s *Elémens de Pharmacie* (since, as the editors emphasized, “chocolate could be considered to be a pharmaceutical preparation”).

While prices could start from 14 sols, these inexpensive chocolates were of poor quality, and, taking into account the cost of the machinery of production, a livre [a measure of weight equal to about 489.5 grams] of good *chocolat de santé* with the addition of vanilla, should cost a consumer between 4 livres and 4 livres, 5 sols. If one serving of chocolate required an ounce of

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92 Ibid., 381.
a tablet, this meant that each cup would cost about 5 sols. While this cost would not have been exorbitant, it still would have placed good chocolate beyond the means of the average worker, a fact lamented in the *Journal oeconomique*, which expressed the hope that “the poor could make use of it like the rich.” Wolfgang Schivelbusch has described chocolate as the “status beverage of the ancien régime,” valued by aristocrats for its nourishing properties, which could help them maintain the fasts necessitated by Catholic ritual. The nourishing properties of chocolate were certainly acknowledged as one of chocolate’s primary attributes, but throughout the course of the eighteenth century, social reformers considered the power of chocolate to sustain, not only fasting aristocrats, but also workers in need of quick, cheap, and effective nutrition. Chocolate, they contended, had more nourishing juice in a single ounce than that found in a pound of beef, was considered an aliment proper to military men, travelers, sailors, and artisans. The authors of the *Journal Oeconomique*, who also reviewed the regimens of genius outlined by Antoine Le Camus and Jean Verdier, sounded remarkably like medical electrical reformers in their hopes that effective non-naturals could be made accessible to the physically productive segments of the population.

Like coffee, chocolate “contribute[d] considerably to the healing of melancholic maladies, caused by the relaxation and the weakness of nerves,” and it shared coffee’s power to “fight off the fumes of wine,” “recall forces that have been killed off,” “fortify the stomach brain, and other vital parts,” “excite vigor,” and “soften the bitter and bilious humors that

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93 The recipe calling for an ounce per serving is “Suite de l’extrait des observations sur le Cacao et le Chocolat; seconde partie,” *Journal Oeconomique* (April 1772): 167.
94 Ibid.
95 Schivelbusch, *Tastes of Paradise*, 92; Ibid., 87.
96 James, *Dictionnaire universel*, 1228; “Suite de l’extrait des observations sur le Cacao et le Chocolat; seconde partie,” *Journal Oeconomique* (April 1772): 162, 167; “Chocolate is such a bargain buy that a cup barely costs a sou. If artisans were instructed in it once, there would be few who would not profit from such an easy and delightful lunch at such a small cost, and to sustain themselves with vigor until dinner with no other nourishment, either solid or liquid” (Diderot, “Chocolat,” 3:359).
descend from the brain to the chest.” 97 Unlike coffee, though, chocolate contained a great deal of oil, which prevented the desiccation of fibers that could sometimes result from coffee-drinking or the pinching irritation of nerves that could be caused by tea. 98 Its heat was less forceful, and it was “more delicate and longer-lasting than that of coffee; because chocolate, being fattier and more viscous, it imprints itself longer on the spot that it touches…” 99 The effects rendered by chocolate might have been less brilliant or vibrant, but they were longer-lasting and much more suitable for individuals whose fibers were delicate or in need of subtle care, such as convalescents, women, and the elderly—a social group whose association with the beverage earned it the epithet “the milk of the elderly.” 100 Women, whose delicate fibers needed the stability offered by the unctuous consistency of chocolate, were especially encouraged to drink chocolate, although they were warned to avoid certain fiery elements like amber and musk because of these substances’ proclivity to cause vapors. 101

The linkage between the oils in chocolate and its restorative effects was not incidental. According to physicians, oil was the main bodily substance that could “give the fiber the necessary firmness without diminishing its suppleness.” 102 Men, whose bodies contained a great deal of the oily principle, had bodies honed for the optimal balance of sensibility. In women and

97 James, Dictionnaire universel, 1231; Lémery, Pharmacopée universelle, 210.


99 Leméry, Pharmacopée universel, 209.


101 Lémery, Pharmacopée universelle, 209.

102 La Métherie, Vues physiologiques, 52.
children, the aqueous principle was dominant, which made fibers looser, and in old people, the preponderance of earth elements and the long-term effects of habit made the fibers stiff.\textsuperscript{103} While the elderly could never fully regain the fiber mobility of their youth, and while “the temperament of a woman…cannot come to this point of perfection [that of the oily principle of men],” the addition of oil and heat to the bodily system through the ingestion of non-naturals could temporarily nourish one’s fibers.\textsuperscript{104} Chocolate was a beverage that, while stimulating, possessed a gentleness that matched that of its intended consumers. The compositional properties of a beverage, the social and physical effects it was thought to elicit, and the moral characteristics of good society were in total alignment.

Rebecca Spang has shown that consumption allowed a person to symbolically align oneself with particular social values. She has wonderfully described the eighteenth-century fad of weak-chestedness, where frailty would be validated as a signal of one’s intellectual refinement.\textsuperscript{105} Consumers ordered \textit{restaurants}, or restorative broths, not simply to ameliorate their physical conditions but also to draw others’ attention to it. Emma Spary has also pointed to the symbolic aspect of consumption, arguing that medical authors found café consumption distressing because “liqueurs played a particularly problematic cultural role in their guise as signifiers of fashionable life and self-pleasing. They reduced alimentary intake to pure symbolism and commercial transaction,” a fact that greatly worried medical writers.\textsuperscript{106} I do not deny that certain consumers translated concepts of mind-body connection into faddish modes of self-styling. Cultural capital and the symbolic acts therein are quite powerful, and medical

\begin{footnotes}
\item \textsuperscript{103} Ibid., 53.
\item \textsuperscript{104} Ibid.
\item \textsuperscript{105} Spang, \textit{The Invention of the Restaurant}, 134-141.
\item \textsuperscript{106} Spary, 151.
\end{footnotes}
writers in the eighteenth century exhibited a great deal of concern that the customer was not always right. That said, I suggest that for many café-goers, consumption was not simply symbolic, nor were consumers ignorant of the potent moral implications of the beverages in question. Instead, I suggest that exoteric knowledge of sensibility and alimentary medicine offered consumers new forms of power, both over themselves and society. In addition to augmenting consumers’ opportunities to display their refinement and adding to authorities’ worries about consumer practices, sensible manipulation gave customers the possibility of sincere self-improvement. They had the chance to remake themselves at every moment, using the knowledge, goods, and money available to them to transform themselves into someone better. Each sip, nibble, and taste could contribute integrally to the person that an individual wanted to become.

In contrast to modern practices, eighteenth-century concepts of ingestion carried direct and far-reaching implications for individual morality and society. The holistic ontology offered by the discourse of sensibility ensured that consumers considered, not only the physical effects of their consumption practices, but also the moral ones. A poor alimentary regime meant not only, as it might today, a propensity for diabetes, obesity, or high cholesterol; it could also signify that one was in peril of moral degeneracy or madness. A salutary diet, on the other hand, held the power to directly benefit society. By selecting beverages conducive to one’s temperament, one could become more quick-witted, sentimentally refined, or friendly, sanguine, and open. In short, acts of consumption did not only define one’s taste; they directly structured it. The interior and the exterior were dually defined, refined, and molded through the goods that one selected. Alain Corbin has argued that new ideas of the body wrought a number of effects on the culture of scent, which ultimately led to the development of a new, individualistic sense of
The highly plastic physiology that accompanied the discourse of sensibility enabled a similar alteration in the culture of beverages, and consumers saw their temperaments and social interactions as being deeply implicated in their acts of consumption. Certainly taste had its own dictates, but even if consumers were drawn to beverages for their agreeable flavors or subtle, innovative mixtures, the medicinal properties attributed to these goods should not be discounted. Just as modern eaters may pay attention to the presence of animal by-products, gluten, or carbohydrates in the foods they choose, many consumers at eighteenth-century limonadiers’ shops were somewhat aware of the composition of the substances they ingested, and they thought directly about the effects that these substances could have on the body.

The Problems with Self-Fashioning: Pathological Sensibility

Because this book centers on sensibility’s relationship to social reform, I have not said very much about the Janus-faced nature of sensibility. As Anne Vila has famously described, sensibility could lead to both enlightenment and pathology, but as one might suspect, optimistic reformers like Haüy and Nollet tended to stress the former side of the coin. They issued cautionary tales, but by and large, they turned a hopeful eye on the world, and sensibility, as their instrument, was frequently treated as an open door to possibility and positivity. That said, every meliorist project in the eighteenth century was shadowed by fears of degeneration. Debates about the salutary or insalubrious effects of limonadiers’ beverages abounded, and few physicians agreed on the proper use of these new, potent substances. Regardless of which side particular

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108 Anne C. Vila, *Enlightenment and Pathology*

109 For more on the debates about coffee’s salubrity, see Landweber, “‘This Marvelous Bean,’” 216-219.
individuals fell on, though, it was common and accepted knowledge that physical and moral effects of some sort were probable. Writers may have debated the merits or faults of particular forms of consumption, but they never questioned the basic premises offered by the discourse of sensibility.

Most physicians, philosophers, and purveyors of goods insisted that consumers had to pay attention to their particular temperaments and keep their own economies in balance. The potential benefits or drawbacks that could be derived from these beverages had to be considered in the light of one’s individual temperamental particularities. For example, Quesnay advised that the consumption of fiery beverages was only suitable for certain physical constitutions, and if one had lax, delicate fibers or a bilious temperament, one should take caution in consuming anything with a great deal of fire. The animal economy had to be moderated, balanced, and cared for such that all the elements, humors, liquids, solids, and fibers would have a tenor conducive to sensation, thought, and feeling. In the words of the merchant Philippe Sylvestre Dufour, “The most sovereign remedies sometimes become pernicious when they aren’t employed according to or in accordance with the temperaments of the people who take them.”

General principles about the effects of certain beverages, like the power of coffee to awaken the imagination, could be put forth, but in order to keep the individual from passing from health to pathology, the intake of such substances had to be regulated according to her individual needs.

In 1727, the traveler Joachim-Christophe Nemeitz published a book recounting his time in Paris. The power of coffee figured among its pages:

I don’t claim to prove that this drink [coffee] is very healthy. It does good for some, and bad for others. It is reckoned that Coffee is a good remedy to chase away melancholy; according to a certain Lady (it is claimed that this was an Illustrious Duchess from Paris,

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100 Quesnay, Essai phisique, 273.

111 Dufour, Traitez nouveaux et curieux, 159.
whose name I won’t divulge here out of respect) who, learning that her husband was killed in a battle, cried: *Ah! How unhappy I am! Quick, quick, someone bring me Coffee!*\(^{112}\)

As Neimeitz acknowledged, the effects of coffee depended in great measure on the particularities of the body. But he also reaffirmed beverage’s ability to allay even the deepest of grief. The effects that could be derived from these beverages were, by no means, minor, nor were they solely physical in nature. Treated respectfully, they were valuable palliatives and amelioratives, but treated wrongly, they were dangerous weapons.

*Limonadiers* tended to trade in fire. High, medium, or low, the heat they offered was heat nonetheless, and an overzealous customer unacquainted with her body could easily overdo it. An unregulated diet consisting of too many “hot” foods and liquids could easily lead to the complete physical and moral degeneration of a being, leading first to a false appetite that made one eat more than is necessary, “from which follows indigestion, colic, or drunkenness, and after that, results or humors that are produced from this intemperance, excit[ed] the fibers once again, augmenting needs and rendering them more pressing, giving rise to bizarre and depraved tastes.”\(^{113}\) Claude-Nicolas Le Cat affirmed this assessment in his *Traité des sensations*, describing the plight of a delicate young man who consumed too much coffee and liquor, followed by an emetic that failed to relieve him of his gastro-intestinal distress, who was left incurably mad and subject to hallucinations.\(^{114}\) Even worse, this excess of heat could in extreme cases, according to Le Cat, lead to the spontaneous combustion of the victim.\(^{115}\) The line

\(^{112}\) Joachim-Christophe Nemeitz, *Séjour de Paris, c’est à dire, Instructions fidèles, pour les Voiageurs de Condition* (Leiden, 1727), 110-111.

\(^{113}\) Moreau de Saint-Elier, *Traité de la communication des maladies et des passions*, 50.


\(^{115}\) Le Cat, *Traité des sensations*, 89-93, 206.
between improvement and degeneration was quite a delicate one, and even the most seemingly innocuous acts could lead to depravity or death. In 1786, physician Victor de Sèze described how a young women spent the day at the shop of a Parisian perfumer, inhaling roses in a room with no ventilation. The scent overstimulated her olfactory nerves, causing violent vibrations that made her hysterical. The effects to her nervous system were so great that she died.\textsuperscript{116} In the hands of skilled practitioners, who knew how to assess patients’ economies and strike the proper balance of stimulation, sensibility was the gateway to genius, aesthetic prowess, social utility, and sentimental attachment. But in the hands of an unskilled practitioner, danger was always around the corner. Sabine Arnaud has argued that by the end of the eighteenth century, doctors had succeeded in the mythification of their practice, such that their authority was consolidated and solidified; increasingly, they were viewed as experts with privileged knowledge and moral authority.\textsuperscript{117} According to Arnaud, they did so by developing a “moral and social discourse” that “affirmed a new place for doctors within society.”\textsuperscript{118} I would add that the medical framework of sensibility, through which the doctor emerged as a privileged authority capable of maintaining the fragile balance of patients’ animal economies, particularly helped them achieve this new status. As fears about pathology circulated, the value of expert knowledge was reinforced.

Even philosophers, popular writers, and literary figures joined physicians in issuing warnings to the general public. Denis Diderot warned \textit{Encyclopédie} readers that long-term use of chocolate could lead to an excess of heat, and he advised extreme caution with the beverage, due to the fashion for additives: “Chocolate workers who want to make it seem like they’ve used a

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\textsuperscript{117} Sabine Arnaud, \textit{L’invention de l’hystérie}, 231-251.
\textsuperscript{118} Ibid., 263.
\end{flushleft}
lot of vanilla mix in pepper, ginger, etc…. Because these spices are incapable of anything except adding fire to the body, wise people won’t give into this excess and are vigilant to never use chocolate if they aren’t sure of its composition.”

While physicians, apothecaries, grocers, limonadiers, the SRM, and other experts could provide information for consumers about various beverages and their effects on different temperaments, the consumer was ultimately in charge of her health. She had the responsibility to know enough about her own health and the properties of the substances that she consumed to make an informed decision about their salubrity. At the same time that the discourse of sensibility increased the authority of experts, it also encouraged consumers to pay vigilant attention to their own health, thereby giving them power over their temperaments, bodies, and shortcomings.

Consumers from all social levels deferred to expertise, giving rise to the figure of the enlightened or educated consumer—the person of taste. Enlightened consumption, like that which was supposed to exist in the limonadier’s shop, required consumers, not simply to consume goods, but also to consume knowledge. They participated in the discourse of sensibility, and their purchases shaped the on-the-ground, anecdotal experiences of this knowledge. Consumption was a process of active construction, a participatory process in which café-goers operationalized philosophical and medical wisdom and continually assessed its veracity. In a 1715 guide for foreigners visiting Paris, Louis Liger explained that “[The café] is the rendez-vous of newsmongers and witty men who assemble there to have conversations about fine literature.” Crucially, he continued, “To do so better, they consume all that which could rouse the ideas that they discuss the most: coffee, chocolate, rossoly, claret, anise water, populo,

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and other beverages of this sort that create delight.”\textsuperscript{120} According to Liger, the beverages were just as much a part of the experience, and he advised travelers to dive into the intellectual delights of the capital.

As with electrical machines, limonadiers’ beverages formed part of the eighteenth-century’s emergent medical marketplace, which was driven by the proliferation of exoteric knowledge and newfound commercial freedom. Indeed, freedom was a key word for eighteenth-century political economy, which witnessed the rise of the now-notorious concept of laissez-faire.\textsuperscript{121} Vincent de Gournay, the intendant of commerce from 1751-1758, denied that commercial regulations were necessary to a monarchy.\textsuperscript{122} The statesman Anne-Robert-Jacques Turgot insisted on “leaving each person free to do what he wants” because “each individual is the only judge of the most advantageous use of his land and labor,” and he notoriously advocated the free trade of grain in 1774 and abolished the guilds in 1776.\textsuperscript{123} François Quesnay, whose medical writings have appeared throughout this chapter, was also a vocal advocate of free trade, as were his Physiocratic colleagues. Quesnay’s first contribution to political economy, an Encyclopédie article on farmers (1756), was saturated with the notion of liberty, and Quesnay was a long-standing and vocal advocate of the freedom of the grain trade.\textsuperscript{124} Summarizing

\textsuperscript{120} Louis Liger, \textit{Le voyageur fidèle, ou Le guide des étrangers dans la ville de Paris, qui enseigne tout ce qu’il y a de plus curieux à voir…} (Paris: Pierre Ribou, 1715), 356.

\textsuperscript{121} Taking Henry C. Clark’s advice to heart, I do not wish to imply that a laissez-faire ideology emerged suddenly or in any teleological fashion. It is certainly better to see the liberal tradition “as the multi-faceted response to a layered array of underlying problems that are better seen as moral, social and strategic rather than merely economic in character” (\textit{Compass of Society: Commerce and Absolutism in Old-Regime France} (Lanham, MD: Lexington Books, 2007), ix).

\textsuperscript{122} Ibid., 132.


Quesnay’s 1757 article on grain, Pierre-Samuel Du Pont de Nemours, wrote, “It’s an irrefutable argument in favor of free trade in general and of liberty of commerce in grain in particular.”

The medical market was far from unregulated, as the case of the SRM shows, but it was largely driven by a surge in consumer choice, where citizens were allowed, in the words of Quesnay, “to spend liberally and according to their preferences.” Consumer desire, in the case of limonaderie, drove production and caused a number of traditional commercial boundaries to be further obfuscated, often to the point of being overcome, allowing the perfect operation of “[the Natural laws] by which all the values existing in commerce are balanced against each other, and settle at last into a fixed value, as bodies left to take their place according to their specific gravity.”

**Conclusion: Democratization and Social Realities**

By the end of the eighteenth century, the luxury goods found in the limonadier’s shop became more affordable, and consequently, the types of establishments serving them became more varied. Alongside the glittering mirrors of the Café Procope, the Café des Mille Colonnes, and the Café Frary, there was the “fetid and thick air” of the Café des Aveugles, “the suffocating odor of the mixture of dishes” at the Café du Caveau, and the “unremarkable” décor

125 Ibid., 85.

126 François Quesnay; quoted in Harcourt, 84.


at the Café de la Renommé.\textsuperscript{129} This gradual democratization fits nicely within Habermas’ theory of the growth of public opinion and bourgeois consumption, but it doesn’t quite seem like the chummy atmosphere that scholarship has generally led us to expect. Admittedly, Habermas’ depiction of the growth of the public sphere is not wholly positive; he notes that as new spaces for bourgeois consumption and political participation opened up, other opportunities were closed to those who were not among the propertied class.\textsuperscript{130} Yet the type of sociability that Habermas described and which has subsequently become the coffee shop’s legacy was one of free exchange, democratic sociability, and the free expression of ideas, all within a tasteful milieu, whose cogs were set into motion by polite conversation. Yet in reality, as the market, clientele, and types of shops expanded, many of these spaces were prey to the same violence and bad company that characterized wine shops. Police regulations dictated that the shops had be been closed at 9 p.m. in winter and 10 p.m. in summer, and the owners were forbidden from letting any “debauched women, soldiers, vagabonds, beggars, people without consent, and swindlers.”\textsuperscript{131} They were also forbidden from 1699 onward from allowing gambling of any sort, even if there was no money involved.\textsuperscript{132}

Such regulations were far from effective. Police commissaries at the Café Buffet found twelve people playing cards. The players tried to hide their money in their hats, to no avail, and the widow Buffet was fined ten livres, with the threat that her café would be closed if they found

\textsuperscript{129} For descriptions of the many cafés in eighteenth-century Paris, see Fosca, \textit{Histoire des cafés de Paris}, 30-54.

\textsuperscript{130} Habermas, \textit{Structural Transformations}, 56.

\textsuperscript{131} Fosca, \textit{Histoire des cafés de Paris}, 30.

gamblers there again. In the 1765 comedy *Momus, Courier*, a gambler in a *limonadier*’s shop suggests that the *limonadier* “purge [his] café of an execrable group,” to which the *limonadier* brazenly replied, “My house is open for everyone; and it’s up to the police to chase away the swindlers.” In 1725, the *limonadier* M. Tertier was brought up on charges for “bad commerce,” or for permitting prostitution in his establishment. Violence was also a common occurrence at these shops, and sometimes it was even perpetrated by the *limonadiers* themselves. Richard Sennett has claimed that “the coffeehouse is a romanticized and overidealized institution: merry, civilized talk, bonhomie, and close friendship all over a cup of coffee, the alcoholic silence of the gin shop yet unknown.” Given the evidence above, it is clear that Sennett is probably correct. The social reality of the *limonadier*’s shop was not always as peaceful, placid, and civilized as the historiography has suggested. Yet this does not mean that it was not a space romanticized and idealized by its contemporaries. There’s a distinction to be made between historians’ rose-colored glasses, which tend to focus on the information-sharing, democratic aspects made prevalent by Habermas’ interpretation, and those of the café’s clientele, many of whom emphasized the free sociality they found there.

The purpose of this chapter has been neither to romanticize the types of sociability that took place in *limonadiers*’ shops in the eighteenth-century, nor to undermine the importance of

133 *Sentence de police qui défend à tous limonadiers, etc., de donner à jouer chez eux.* (24 Juillet 1720); quoted in Franklin, 221.


135 “Causes jugées au Conseil de Police: infractions aux règlements des communautés d’artisans et de marchands, engagements forcés, commerce de livres prohibés, etc., 1723-1748,” AN Y9523 1725.


the democratic social functions that feature so centrally in Habermas’ interpretation of the coffee shop. Rather, I have shown that these forms of sociability centered not only on the physical space or on the types of patrons who spent time there, but that, for eighteenth-century consumers, the goods that were sold there were directly implicated in their social experiences. Medicine, morals, and commerce were inextricably entwined, and the ideal type of “sociable man” or “sociable woman” was just as bound to the goods that were consumed as to the individual or the space itself. The discourse of sensibility dictated a unified conception of the mind, body, and morals, and as a result, the alterations to sociability that have been so well documented in eighteenth-century historiography need to have their accompanying physical and mental alterations restored to the narrative.

The case of the limonadier’s shop shows the ways in which theories of sensible manipulation spread beyond the realms of medicine and reform projects oriented toward the poor or the handicapped, spreading equally to the well-to-do, the bourgeoisie, and guild workers. Sensible manipulation took as its subject, not just the improvement of the “broken” segments of society, but took as a premise that all individuals could be improved or, at least, optimally managed on a day-to-day basis. Through the social ideals attached to certain forms of consumption, individual identity was more closely joined to collective goods, and the definition of what constituted the ideal form of sociability was developed, not only in new spaces for socializing, but discursively and symbolically through the goods served in these spaces.

Many of the beverages sold in limonadiers’ shops were filled with fire, brimming with an element that could easily set the mind and body alight. Consumers, acquainted with some degree of popular knowledge of the medicinal properties of such beverages (or in Fleckian terms, with some degree of exoteric knowledge) were in charge of their own mental and moral health, self-
regulating through the types of beverages that they consumed. But by the same token that gave
them license to take the improvement of their health into their own hands, they also had the
power to destroy it. The management of the sensible economy required vigilant attention, as
physicians like Le Camus, Tissot, and Le Cat reminded their readers time and time again.
Overheated heads and overheated hearts, resulting in some degree of violence, argument, or
contention, would not have been contrary to the theory implicit in these practices of self-
regulation. They were simply one of many possible side effects, some of which resulted more
properly in civil social commerce than others. Acknowledging the social reality of the café (or at
least of some cafés) as a more turbulent, unrefined, and un-intellectual milieu does not mean
rejecting the new social possibilities that were anticipated or that resulted from these spaces.
Instead, it helps us see that contemporaries idealized them, at least in part for the theoretical
potential that they had for commerce, society, and physiology. The limonadier’s shop can be
seen as a site for the creation of moral beings, but it was precisely the same aspects that
permitted the spread of these sites’ popularity—a wide commercial audience, blurred guild lines,
and the unclear distinction between alimentary and medical materials—that made it difficult to
keep the effects in check.

By looking at this “vernacular” instance in which the discourse of sensibility operated, an
overarching narrative about the relationship between commerce, control, and social good
emerges. The expansion of the consumer market and medical commerce meant expanded
opportunities for mass enlightenment or, on the other hand, mass degeneration. Larger groups of
people had access to a larger variety of goods, and an ever-larger group of theorists, doctors,
philosophers, savants, poets, institutions, experts, and amateurs contributed to the circulation of
goods and knowledge. This expansion meant increasingly slippery control over entire fields of
knowledge and practice. For optimists, the increased accessibility offered a great deal of potential. Producers and vendors had the potential to make a great deal of money and access new opportunities. Consumers experienced new delights and participated in new, exciting forms of self-definition. Proponents of perfectibility dreamed of a world in which an expanded public could have modified minds, bodies, and morals. The discourse of sensibility created a space in which daily experiences, average people, and common practices could wield a massive amount of social power. But for those wary of consumer choice, that large amount of social power could be highly threatening. Uneducated consumers could drink coffee and liquor willy-nilly, sending themselves into hysterical fits. Charlatans could claim that their concoctions contained unspeakable power. Limonadiers sold medical products, while pharmacists hawked items that were purely recreational. In such an environment, it would have been easy to feel that every tenet that had guided alimentary practice was being muddied. Just as readily as the discourse of sensibility had offered a space for self-definition, it offered evidence for the need for increased social control, economic control, medical control, and state power.
CONCLUSION

The Diverse Questions Offered by the Economy of Our Being

There is no question that the eighteenth century was an era of reform, in which the deepest philosophical questions came head-to-head with practice, implementation, and experimentation. Enlightenment thinkers freely debated the ultimate end of society, often falling down on the side of utility, happiness, or both. The materialist physician Julien Offray de La Mettrie declared in 1748 that “Nature has created us uniquely to be happy,” a sentiment later echoed by the Marquis de Sade, who, writing in the wake of the Terror, advocated pleasure as Nature’s highest goal: “Nature has endowed each of us with a capacity for kindly feelings: let us not squander them on others…May our sensibility’s heart warm naught but our pleasures!”\(^1\) La Mettrie, as radical as he was considered in 1740, did not go as far as Sade in his claims against absolute morality, still allowing a space for natural law, which he defined as “a feeling that teaches us what we must not do on the basis of what we would not like someone else to do to us.”\(^2\) Sade, however, who carried sensationalist moral relativity to its extremes, saw no such limits. According to the marquis, the pursuit of personal pleasure marked the “exact economy of feeling” and the “judicious use of sensibility,” even if it resulted in pain for others, given that “Nature, [who] for the perfect maintenance of the laws of her general equilibrium has sometimes needs of vices and sometimes of virtues.”\(^3\) Denis Diderot, another dedicated materialist, argued, “supreme merit is to have combined the agreeable with the useful. Perfection comes from


\(^2\) La Mettrie, 53.

\(^3\) Sade, 217; Ibid., 360.
reconciling these two things,” and Choderlos de Laclos, the author of the libertine novel Les liaisons dangereuses admitted that the value of work is “composed of its utility or of its charm, and even of both of these, when it is susceptible to them.”

Claude-Adrien Helvétius argued in his materialist treatise De l’esprit that “[public] utility is the principle of all the human virtues and the foundation of all legislation,” adding that utility was inextricably bound to happiness, and “all men tend only toward their happiness.”

Many of these thinkers rank among the more “notorious” figures of the Enlightenment, and for the most part, their works are characterized by a pervasive materialism that found its license in sensible medicine and sensationalist philosophy. Yet these radicals were far from the only individuals bandying about such ideas. The Christian naturalist Charles Bonnet argued that the goals of utility and pleasure were indistinct, stating, “The livelier this Pleasure is, the more it contains agreeable Sensations, the more it contributes to Well-being, or to the Perfection of the Intelligence that enjoys it, and the more there is Utility in the Goal or in the Effect.”

The Jesuit Claude Buffier argued that morality was “the science of living with other men in société civile in order to procure, as much as we can, our own happiness in concert with the happiness of others.” Other figures like the Jesuit Louis-Bertrand Castel, Father Polycarpe Poncelet, the abbé

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6 Charles Bonnet, Essai analytique sur les facultés de l’âme, 2d ed., vol. 1 (Copenhagen and Geneva: Claude Philibert, 1769), 260. Bonnet made clear that the pleasure to which he referred was not jouissance, which was connected with desire and could lead an individual astray (295).

de l’Epée, and the deist (albeit anticlerically-minded) Voltaire all maintained a religious perspective while still recognizing the social potential offered by the discourse of sensibility. The relative merits of pleasure and utility abounded in eighteenth-century social thought, proving irresistible to thinkers of all sorts.

Utility and pleasure were by no means new concepts, but they seemed to vie for a new place of prominence in eighteenth-century social theories, with utility appearing as the victor in the nineteenth century. This book has not sought to trace that victory, or even to assert that utility and its counterpart pleasure were the only competitors for the title of eighteenth-century social value, *par excellence*. Instead, it has shown the degree to which the language of sensibility raised questions about social values, goals, and ends more generally. It was a discourse that was uniquely expressive of individuality within collectivity, and as such, it enabled the reconceptualization of the social whole. This book adds further evidence to the interpretations advanced by scholars like Daniel Roche, Keith Michael Baker, and Daniel Gordon, who argue that the eighteenth century witnessed the development of new concepts of society and individualism. In the Enlightenment, “society” came to represent collective human existence, and that collectivity was assured through the association of individuals. As the particularity of individuals was increasingly noted, so too, did the interdependence of human experience, and new theories emerged that defined society as contingent upon individual difference, capacity, and contribution.

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The concept of “society” was a rather expansive one, with a totalizing scope that implicated virtually all aspects of human behavior. Faculties, talents, morals, ideas, abilities, actions—they all had ramifications, not only for the path that an individual’s life took, but also for the path of the collective as well. Newly conceived, individuals were never far removed from the totality of human life, and each aspect of a person’s being had the power to affect larger-scale structures. In the words of the anonymous author of the Encyclopédie article “Société [Morale],” “Men are made to live in society…..Indeed, such is the nature and the constitution of man, that outside of society, he could not preserve his life, nor develop and perfect his faculties and talents, nor procure for himself a true and solid happiness.”

The individual man, the perfection of his faculties and talents, and his true and solid happiness were inextricably tangled with collective belonging.

There was another, rather important, totalizing aspect of this new concept of society: the notion that every individual was included. In the early modern social world, certain individuals or groups had been isolated or excluded, but Enlightenment reformers dreamed up ways to use individuals’ particularities to reintegrate them into the social whole. The new Enlightenment concept of society entailed its holistic operation, and individual idiosyncrasies, rather than derailing the system, ensured that it would work to its maximum potential. The body played a key role in the determination of the place of the individual within the social whole. Each individual, according to his or her talents, genius, and abilities, could play a distinct, instrumental role within society, and when taken together, all these various talents and singularities would form a harmonious social economy. The uniqueness of the individual made the interrelation of

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9 Baker, 102.
the parts all the more fluid. Rather than being comprised of pieces that fit together as cogs, the holistic being was governed by shifting dynamics of reaction and interaction. Whether the overarching goal was to make an individual useful, sociable, free, or happy was still up for debate, but the central question, regardless of the answer, was still how to situate the individual within the densely woven fabric of society. In essence, the whole had to be grappled with, and it was through the discourse of sensibility and its attendant management of the individual body that this relationship was navigated and debated. Philosophers, social actors, and consumers of all ilk—whether Christian, atheist, materialist, mechanist, vitalist, animist, bourgeois, noble, poor, disabled, healthy, physically able, intellectually keen, and so on—found common ground in the discourse of sensibility. Over “the diverse Questions offered...by the Economy of our Being” (a phrase used by Charles Bonnet), social theorists, physicians, philosophers, and consumers found a discursive space conducive to their discussions, that could address questions of mind, body, and morals in one fell swoop.¹¹

Through the linkage of the physical and moral, as well as the linkage of the individual and the collective offered through the prospect of manipulability, the discourse of sensibility offered a fertile ground for social thought. Whether sensibility was mobilized for radical materialist ends or in support of natural theology was highly flexible, but the central characteristics of the discourse ensured that individuals had a set of shared premises upon which they could base their discussions. As Chapter One showed, sensibility was understood as a faculty involving a perceptual act, it was in equal measure physical, mental, and moral, it was manipulable, and it functioned economically. These fundamental contours of the language furnished boundaries sufficient to ensure a common footing for philosophical, medical, social, and cultural debates, while still allowing for the versatile mobilization of the concept for varying

¹¹ Bonnet, *Essai analytique*, xiii.
ideological ends. The conceptual link that sensibility offered between various ontological realms meant that discourse and practice could fluidly cross the lines of mind, body, and morals. The individual body became a central node for debates about the proper constitution of these three areas. Enlightenment was indeed a process whereby the reasonable mind could be perfected and educated and was thereby subject to progress, but equally, it relied upon the mechanisms of the physical body. Somatic considerations figured centrally in debates of perfectibility and social progress, and any attempt to describe Enlightenment social reform or philosophy should account, not only for the rational, intellectual endeavors of mind, but also for the corporeal component that Enlightenment *savants* and reformers themselves took to be essential to the process.

The economic nature of sensibility was central to the discourse of sensibility as it appeared by mid-century, and the case of Castel’s ocular harpsichord in Chapter Two demonstrates precisely how that economic conception developed in response to the need for a more fluid, multivariable means of accounting for the functioning of the individual within the social. As these relationships between these various macro- and micro- became more fully elaborated, writers, reformers, philosophers, dreamers, and average folk began to understand the myriad ways in which seemingly disparate parts of their lives were connected. Sensibility, as a way of conceptualizing those connections, offered a language and a set of constructs that enabled these individuals to explore the potential of this newfound notion of “society.” What did it mean to live in one; what did it mean to be connected; what was the best way to improve it; and what, really, constituted social good? For optimists like Castel, the possibilities were nearly endless, spreading across math, science, art, commerce, leisure, technology, religion, and numerous other fields. Chapter Three shows how, even in its nascent form, sensibility allowed *savants* to reconceptualize the types of options that were open to them, and to society as a whole.
Chapters Four through Six illustrated how sensibility pervaded commerce, corporate structures, politics, art, philosophy, science, medicine, religion, education, state finance, and law. These myriad fields matched an equally varied group of social contexts in which these matters were debated: the public sphere of salon discussion and café sociability, informal networks of correspondence, royally sponsored institutions, privately sponsored philanthropic endeavors, and the circulation of manuscripts, published treatises, and literary journals. Chapters Four and Five focused on the role that sensibility played in knowledge creation and practical applications of that knowledge. Because of its physiological component, sensibility offered a potent language for medical theorists and men of science. Through the creation of reforms, institutions, and laws, knowledge that was inflected by the discourse passed into action; similarly, the imperatives of political economy, state management, resource limitations, and social problems drove savants to find solutions through the application of sensibility. This reciprocal process of knowledge creation and application highlights how the discourse functioned with immense flexibility while still retaining a solid core of concepts that were available to participants.

Chapter Six added a third thread to that network: the interplay of expert and amateur knowledge. Sensibility was mobilized by reformers, men of science, physicians, and the state, but the populace at large also participated in the discourse, amending and adapting sensibility to their own ends. By and large, reformers argued that sensibility was a tool for improving productivity, maximizing talent, or increasing utility. As such, the individual body became the bearer of collective goods. Consumer applications of sensibility focused on a different—although arguably interrelated set of ends—happiness, fulfillment, entertainment, pleasure, and novelty. (The perspicacious Castel treated both sets of concerns—those of reformers and consumers—as overlapping and omnipresent benefits that could result from the management of sensibility.)
Consuming a lemon ice, crunching on candied nuts, or feeling the tickle of an invisible electrical force—these were indisputable pleasures that gave consumers joy or, at the very least, a sense of exploration, excitement, and adventure. Many of our sensory experiences today are oriented toward these ends, and as in the eighteenth century, individual desire rests at the heart of many of our experiential pursuits. But for individuals whose worldviews were grounded in sensationalist philosophy or notions of sensibility, these experiences did not exist in a vacuum. They carried significant moral and mental effects. The development of consumer society created new possibilities for identity creation. Through their experiences, consumers learned to navigate the world, shape themselves, and understand themselves in new ways. As acutely personal as they may have been, they also bore the weight of implications for the collective. Under the discourse of sensibility, all individual goods served as public goods as well.

The expansive reach of sensibility clearly demonstrates the penetration of the discourse of sensibility across the entirety of eighteenth-century French cultural and social life. Healthy upper-class consumers and disabled workers alike participated in or were affected by the discourse of sensibility. So too were the unlikely pairings of conservative Christian thinkers and atheist materialists, mechanist and vitalist physicians, and the powers of monarchical authority and those of the new public sphere. The language of sensibility took on different casts, colors, and shapes, and the ends to which the discourse was instrumentalized varied widely. Those in command of the discourse had the power to define social goods and outline optimal behaviors, but there were a great many individuals and groups who spoke the language of sensibility. Yet, in the midst of all that diversity, it was still a common language that centered on the power of perception; the connection of the mind, body, and morals; manipulability; and economic functioning. Sensibility, seen this way, can truly be seen as the “culture” that it has long been
termed by historians and literary scholars. Much more than a concept dealing only with the constitution of an individual’s emotional and aesthetic apparatus, expressed through affect, tears, swooning, and physical stimulation, sensibility can be seen as a language that struck at the constitution of society itself.

Coda: Ideology

_Sensible Instruments_ ends before the onset of the French Revolution, given that the many institutional changes wrought by the Revolution would be sufficient for a tome unto themselves. Yet it is decidedly the case that sensibility’s life continued beyond the boundary of 1789, and among the foremost of its standard-bearers were the Ideologues, a group of individuals dedicated to creating a “science of man” that situated medicine at the center of their analysis. Ideology accepted the sensationalist claim that sensation was the source of all ideas and emphasized the primacy of sensibility as “the ultimate term one arrives at in the study of vital phenomena,” but it sought to investigate more fully the process by which sensation became thought.¹² According to the Ideologue and physician Pierre-Jean-George Cabanis, the working of external impressions on the brain was an insufficient explanation for this process, and he argued that “internal impressions” originating in the viscera exercised a significant effect on the formation of ideas. These internal impressions could be termed “instinct,” where mental constructs formed by the action of external impressions were deemed “reason.”¹³ “The moral” was formed through the combination of these two types of impressions.¹⁴

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¹⁴ Ibid.
In Cabanis’ formulation, just as in the discourse of sensibility, reason existed as a form of sensation and the mind, body, and morals had reciprocal rapports. But the addition of “instinct,” altered the relationship between these ontological realms crucially. As Elizabeth Williams has shown, “in this formulation, the mind was no longer Locke’s clean slate to be inscribed with information from the outside world....[The mind] was captive to the body and its diverse states.”

In the discourse of sensibility, the tenseness of fibers could directly affect the way in which stimuli were perceived, but by attributing the viscera their own instinctive impressions, Cabanis made the physical-moral link “even more intimate and powerful than had been suggested by classic sensationalist theory.”

Not all sensations had to travel through the intermediary of the brain. The concept of instinct withdrew internal impressions from the perceptive action of reason, even though such impressions could trouble it and lead to madness. Jan Goldstein has shown that this conception of medicine “led logically to the validation and cultivation of an explicitly ‘psychiatric’ domain” by “underscoring the psychological dimension of all practice of the healing art.” Where earlier attempts to manipulate sensibility often took the body as the site of reform, Ideology encouraged a medicine that applied its efforts to the imagination, which took its place “at the juncture between le moral and le physique.”

In short, while Ideology marked an extension of the noso-politics described by Foucault and a continuation of the theory of the physical/mental/moral link, the manipulation of the body through the application of non-naturals played a lessened role. The emphasis shifted to a

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16 Ibid., 89.

17 Goldstein, *Console and Classify*, 52.

18 Ibid., 53.
medicine of the imagination, such that “the Idéologues’ anthropological program for medicine served as a kind of midwife to psychiatry.”

In Ideology, the possibility of manipulating the body as a means of achieving social goals was much less optimistically conceived. In the words of Williams, “human ‘organization’ itself set clear limits on the reign of reason,” and where physicians had previously emphasized the manipulability offered by the non-naturals, “in Cabanis’s teaching, some of these factors set fixed boundaries to human perfectibility and prescribed narrow social roles, [while] others set flexible, but still limited ranges of possibilities.” Ideologue physicians maintained an emphasis on the importance of individual particularity and observation, but by and large, they turned their attention away from meliorist projections toward the identification of social types. The rapports between the physical and the moral were no longer seen as a gateway to social perfection, and instead of offering up radical possibilities for social change, the Ideologues’ medical theory exercised “a genuinely conservative influence because of the inherent constraints it imposed on any vision of the human organism and its potentialities.”

During the Enlightenment, the discourse of sensibility had created a space for new concepts of society, the individual, and social reform, placing the body front and center in debates about human and social potential. The body was to remain a central discursive site throughout the French Revolution and the early nineteenth century, but as social organizations

19 Ibid., 54.

20 Williams, The Physical and the Moral, 90; Ibid., 101.

21 Ibid., 81, 94.

22 Ibid., 104. In large part, this conservatism seems bound up with the political context in which the Ideologues found themselves. Williams notes that many Ideologues became increasingly conservative after the fall of Robespierre, and struggled under Napoleon to keep the positions they had come to occupy during the Directorate. For a description of the fate of the science of man under Bonaparte, see Williams, The Physical and the Moral, 111-114.
and ideals shifted, so too did the discursive power of the body. The fluidity that had once marked such optimism was replaced with a concept of the body that offered more limited potential for social change.
PRIMARY SOURCES

i. Archival and Manuscript Sources

Archives de l'Académie nationale de médecine, Paris

Archives de la Société royale de médecine

Registres
MS 14: “Registres contenant le jugement de la Société royale de médecine sur les remèdes et les différentes préparations qui lui ont été présentés,” vol. 1.

MS 15: “Registres contenant le jugement de la Société royale de médecine sur les remèdes et les différentes préparations qui lui ont été présentés,” vol. 2.

Liasses
SRM 118A 1-82: “Observations sur les effets du traitement par l’électricité de Mauduyt, dossiers numérotés de 1 à 82, pour les années 1777-1778 et partie de 1779 (manquent les numéros 4, 8, 10 à 14, 63, 64)”

SRM 118B 83: “Rapport par Geoffroy, Lorry, Andry sur ce traitement: conclusion efficace pour la paralysie, utile pour les rhumatismes, pour les autres cas, les expériences doivent être poursuivies ; devrait être également expérimenté pour les écrouelles.”

SRM 118B 85: “Note de Mauduyt : la SRM a inséré dans le volume de ces mémoires, son ouvrage sur les différentes manières d’appliquer l’électricité et le ministre en a ordonné l’impression à l’imprimerie royale, à 1200 exemplaires.”

SRM 118B 86: “Remarques raisonnées sur l’abus du magnétisme, sur l’utilité ou les dangers des autres remèdes nouveaux, spécialement sur l’électricité par Esnue de la Vallée, médecin à Craon en Bas Anjou.”

SRM 118B 92: “Extrait des journaux pour les maladies électrisées en 1784 (de la main de Mauduyt, résumé de l’article précédent).”

SRM 118B 97: “Extraits des journaux tenus au dépôt (des pauvres) de Saint-Denis, pour les traitements électriques (de la main de Mauduyt). Berthies, intendant de Paris, a eu au début de 1784, le projet d’établir un traitement électrique au dépôt.”

SRM 118B 99: “Rapport à la SRM par Fourcroy et Mauduyt du 9 novembre 1785, d’un mémoire sur l’électricité médicale administrée à Saint-Dié, par Poma, médecin, et Renaud, pharmacien (47 malades).”
SRM 118B 101: “Lettre de Calonne à Vicq d’Azyr, pour l’informer que le roi ayant ordonné de nouvelles expériences à la Salpêtrière pour constater les effets de la pope électrique inventée par l’abbé Sans, pour la guérison des convulsions des enfants, et qu’il y a peu de succès, il lui fait envoyer les p.-v. des commissaires, 7 décembre 1786; la lettre porte en note Geoffroy, Hallé, Fourcroy, Vicq d’Azyr.”

SRM 120B 7: “Chambon, médecin à Bourbonnes. – Correspondance relative à l’électricité médicale et aux eaux de Bourbonnes.”

SRM 122A 10: “Carmoy médecin à Paray-le-Monial. Observation sur le traitement électrique d’une paralysie.”

SRM 141 36: “Électricité médicale : lettre anonyme du 9 novembre 1778 à Vicq d’Azyr.”


**Archives de l’Académie des sciences**

Dossiers de séances
Nov. 1743: Daviel, “Observation de chirurgie au sujet de plusieurs cataractes de naissance.”

Nov. 1746: “Lettre de M. Le Cat à Monsieur Morand du 13 7bre 1746.”

Nov. 1746: “Extrait d'une Lettre écrite a mr. l'abbé nollet, par mr. de la Lavat, gentilhomme de La chambre, de L. at R. mde. La princesse d'orange. a Leuvarden le 18 octobre 1746.”

March 1748: “Extrait d'une lettre de Mr. Jallabert a Mr. Cramer du 5 Mars 1748.”

Procès verbaux
20 Jan. 1746: Pieter van Musschenbroek to René Antoine Ferchault de Réaumur

**Archives nationales, Paris**

M852: Médecine et sciences naturelles: mémoires, consultations, recettes, thèses. XVIIe-XVIIIe s.

Y9523^A: Causes jugées au Conseil de Police: infractions aux règlements des communautés d’artisans et de marchands, engagements forcés, commerce de livres prohibés, etc., 1723-1748.

Y 9523^B: Causes jugées au Conseil de Police: infractions aux règlements des communautés d’artisans et de marchands, engagements forcés, commerce de livres prohibés, etc., 1748-1752.
Y 9528: Causes jugées au Conseil de Police: infractions aux règlements des communautés d’artisans et de marchands, engagements forcés, commerce de livres prohibés, etc., 1773-1775.

Y 9530: Causes jugées au Conseil de Police: infractions aux règlements des communautés d’artisans et de marchands, engagements forcés, commerce de livres prohibés, etc., 1780-1785.

Archives du Service historique de la Défense, Vincennes

Archives de la guerre, Département de l’armée de terre

Sub-series X°: Hôtel des Invalides
1 X° 10: Personnel d’administration, dossiers individuels.

1 X° 33: Législation et réglementation.

2 X° 182: Correspondance relative au personnel de l’Hôtel, 1670-4 floréal an XII

2 X° 133: Décès, 1er avril 1737-31 décembre 1749

Bibliothèque patrimoniale Valentin Haüy, Musée Valentin Haüy

Documents signés de Valentin Haüy
7: 1783. Journal de Paris
9: 1784. Journal de Paris

A-02-3004, 2: Catalogue des souscripteurs, 1786
A-02-3004, 3: Noms des souscripteurs, 1786

Bibliothèque royale de Belgique/ Koninklijke bibliotheek van België, Brussels

MS 15744
Castel, Louis-Bertrand. “Réponse du P. Castel jésuite et académicien de Rouen, de Bordeaux, de Lyon, de Londres, etc. aux objections anonymes contre sa nouvelle méthode pratique d’apprendre la musique, chant, composition, et exécution,” [after 1754]. 51r° -52v°, 57r° -v°.

MS 15746

MS 15755

MS 20753-20756


_______. “Lettre à madame la comtesse [de Maillebois],” 16 March 1753. 28r°-29v°.


_______. “La guerre reduite en art et en règle, par principes géometriques et comme par raison démonstrative,” 1754.135r°-148v°.

ii. Periodicals and Newspaper Articles
(A lack of dates signifies that journals were consulted over non-consecutive years)

Affiches, annonces, et avis divers

Almanach forain, ou les Différens spectacles des boulevards et des foires de Paris (1773)

L’Avantcoureur

Gazette du santé (1780)

Gentlemen’s Magazine (1745)

Journal oeconomique (1772)

Journal de Paris

Journal de politique et de littéraire (1775)

Journal des sçavans
Journal de Trévoux, ou Mémoires pour servir à l’histoire des sciences et des beaux-arts

Mercure de France

La nature considérée sous ses différents aspects, ou journal d’histoire naturelle (1789)

iii. Dictionaries and Encyclopedias


Bertrand, Jean-Elie. Descriptions des arts et métiers, 20 vols., Neuchatel: Imprimérie de la Société Typographique, 1780-an VII [1798 or 1799].


iv. Other Printed Primary Sources


_____. De l’électricité du corps humain dans l’état de santé et de maladie. Lyon: Bernuset, 1780.


Dufour, Philippe Sylvestre. Traitez nouveaux et curieux du café, du thé, et du chocolate; Ouvrage également necessaire aux Medecins, et à tous ceux qui aiment leur santé. La Haye: Adrian Moetjens, 1685.


_______. Oeuvres de Montesquieu, contenant L’esprit des lois livres I-XXII. Paris: Belin, 1817.


Retz, Noël. Des Maladies de la peau, de leur cause, de leurs symptomes, des traitemens qu’elles exigent. Amsterdam: Méquignon l’aîné, 1785.


_____. *Observations sur le mémoire de Saint Péravy.* 1767.


SECONDARY SOURCES


Bertucci, Paola. “The Electrical Body of Knowledge: Medical Electricity and Experimental Philosophy in the Mid-Eighteenth Century.” In *Electric Bodies: Episodes in the History*


Hankins, Thomas L. “The Ocular Harpsichord of Louis-Bertrand Castel; Or, the Instrument that Wasn’t.” *Osiris* 2nd series, 9 (1994): 141-156.


