

RAMEAU'S CARTESIAN WONDER

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ABSTRACT

While Rameau alluded to contemporary notions of musical expression in his theoretical writings, he devoted little effort to explaining how music acted on listeners expressively. This article reviews Rameau's writings to establish and clarify his beliefs about this process, finding that they less resemble what we would think of as the leading edge of contemporary thought – exemplified by Dubos, Estève and the Encyclopedists – than they do the earlier descriptions of Descartes and Malebranche. Following long-standing philosophical tradition, the latter privileged the passion wonder (admiration) as the structural basis for all passions. Rameau in turn staged his theoretical discoveries and responses to music in precisely the same way, as an initial, constitutive experience of wonder that then merged mimetically with subtler passionate responses. He assumed similar responses for those who listened to music. We can attribute Rameau's preference for an old-fashioned explanation of the passions to several factors. Notably, according to the principles of his theoretical system, he needed to isolate and describe music as an object that acted on the beholder's mind, whereas later writers concerned themselves more with the beholder's sensory and emotional responses. Moreover, Rameau's argument was an effective response to conservative music critics, who attacked him for introducing overly sensual elements into music.



When scholars turn to the question of expression in Rameau's music, we generally do so in the exegetical mode: a particular musical gesture corresponds to a particular textual element, describing it, depicting it or otherwise creating an analogy between music and text. As a theorist, Rameau encourages us in this hermeneutic activity. From the handful of remarks in the *Traité de l'harmonie* (1722) to the more detailed assertions in his *Observations sur notre instinct pour la musique* (1754) and on to a chapter devoted to expression in the *Code de musique pratique* (1760), he encourages readers to regard musical gestures as fundamentally expressive and, more importantly, to regard their expressivity as an attribute of the properly functioning fundamental bass and *corps sonore*. His arguments are both prescriptive, urging composers to pay attention to texts when setting them to music, and descriptive, relying on a handful of examples to which he returns continually – Lully's 'Enfin, il est en ma puissance' from *Armide* (1686), as well as his own monologue 'Tristes apprêts' and chorus 'Que tout gémissé' from *Castor et Pollux* (1737).

Nevertheless, despite the important role expression played in his work, Rameau spent rather less time on an element of considerable interest to his contemporaries, namely, how music acted on listeners to accomplish its expressive feats. This was no small matter, given his routine assertions that the elements of his music theory were perceptible to connoisseurs and ordinary audience members. The present study

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argues, first, that modern readers can glimpse his beliefs regarding this process by attending to certain scenarios – commentaries on expression, descriptions of listeners, accounts of music-theoretical discoveries – that appear across his writings, especially after the *Nouveau système de musique théorique* (1726). These scenarios rely on a type of physical and emotional response that by this time possessed a long literary and philosophical pedigree, rooted in the notion of wonder (*admiration*).¹ Now a number of theories regarding this process were in circulation in France from the early seventeenth century to the end of the eighteenth century, and many of them, such as Boileau's and Montesquieu's, incorporated wonder to some degree.² The second part of my argument shows that the experiential model Rameau employed bore a strong structural resemblance to Descartes's as codified in *Les passions de l'ame* (1649). I do not necessarily regard this as reflecting a programmatic commitment to Cartesian thought, in the manner recently criticized by Benjamin Straehli,³ but rather as emanating from common beliefs and practices in the seventeenth century influenced by Descartes and continuing into the eighteenth.

Some provisos are in order. First, what I am tracing here is not an integral part of Rameau's theories; rather, it is an epiphenomenon, something that arose before and during the more pressing task of theorizing music. This means, on the one hand, that we must seek for clues to his beliefs in the margins of his writings, while acknowledging, on the other, that these clues reveal something important to our understanding of his claims and, more generally, of the claims underlying theories of mimetic expression. What we find will enhance, and in some cases confirm, our exegetical studies of his operas. Second, this project requires us to acknowledge that, intellectually, Rameau was a magpie who collected the ideas of others, adopting those elements that supported his theoretical concerns, only to relinquish them when more suitable ideas appeared. Thomas Christensen notes that 'at one time or another, Rameau cast his theory of the fundamental bass in the varied rhetorics of neoplatonism, Cartesian mechanism, Newtonian gravitation, Lockean sensationalism and Malebranchian occasionalism', while Erwin Jacobi points to Rameau's continually faltering friendships with younger colleagues – Castel, Briseux, Diderot, d'Alembert – who contributed to his theories but failed fully to embrace his ideas.⁴ What this means for the present study is that Rameau's patchwork adoption of new theoretical formulations – say, empirical descriptions of the kind valued by the Encyclopedists – did not necessarily lead him to overhaul his views of how music acted on listeners, any more than it did ideas like the fundamental bass or the *corps sonore*. His conception of how musical expression functioned remained fairly

1 On the importance of wonder in seventeenth- and eighteenth-century thought see Sophia Vasalou, *Wonder: A Grammar* (Albany: State University of New York Press, 2015), 18, 21; R. Darren Gobert, *The Mind-Body State: Passion and Interaction in the Cartesian Theater* (Stanford: Stanford University Press, 2013), 43–48 and 63–79; Deborah J. Brown, *Descartes and the Passionate Mind* (Cambridge: Cambridge University Press, 2006), 4–10 and 142–146; Philip Fisher, *The Vehement Passions* (Princeton: Princeton University Press, 2002), 1–2 and 28; Philip Fisher, *Wonder, the Rainbow, and the Aesthetics of Rare Experiences* (Cambridge, MA: Harvard University Press, 1998); Lorraine Daston and Katherine Park, *Wonders and the Order of Nature, 1150–1750* (New York: Zone, 1998), 304–316 and 324–326; Susan James, *Passion and Action: The Emotions in Seventeenth-Century Philosophy* (Oxford: Clarendon, 1997), 169–170 and 187–189; Stephen Gaukroger, *Descartes: An Intellectual Biography* (Oxford: Clarendon, 1995), 394–403.

2 Nicolas Boileau's treatment can be found in his 1674 translation of Longinus, *Le Traité du sublime*, in *Oeuvres diverses du sieur D*** avec le traité du sublime ou du merveilleux dans le discours* (Paris: Thierry, 1674). Charles-Louis de Secondat, Baron de La Brède et de Montesquieu's treatment can be found in his posthumously published *Essai sur le gout*, ed. Charles-Jacques Beyer (Geneva: Droz, 1967).

3 See Benjamin Straehli, 'Le Cartésianisme de Rameau: un mythe?', *Revue de musicologie* 101 (2014), 53–92.

4 Thomas Christensen, *Rameau and Musical Thought in the Enlightenment* (Cambridge: Cambridge University Press, 1993), 13. Regarding the composer's friendships see, for example, Jean-Philippe Rameau, *The Complete Theoretical Writings of Jean-Philippe Rameau*, ed. Erwin R. Jacobi, six volumes (American Institute of Musicology, 1967–1972), volume 1, li (hereafter *CTW*). For a valuable survey of ideas on music in circulation during the later part of Rameau's career see Cynthia Verba, *Music and the French Enlightenment: Reconstruction of a Dialogue 1750–1764* (Oxford: Clarendon, 1993).



consistent throughout his career because it suited his purposes well. A survey of some key historical points will help us appreciate how he arrived at his beliefs regarding expression.



By the time Rameau embarked on his career, the question of how external stimuli entered the body to provoke physical, emotional and intellectual responses had long been a matter of interest. Discussions became especially lively around 1600 as thinkers turned away from the cosmologies, sympathies and affinities of Renaissance thought to study the tangible relationships linking beholders with actual perceived objects:

The filling out of the new methodical form will be read by its originators and their successors as the accumulation of a *right* knowledge ('legitimate', as Bacon had put it already, as early as 1603 in the *Temporis partus masculus*) concerning the *truth* of a world of objects that may be manipulated and possessed. It is the *I* contained in the *cogito* . . . that institutes meaning within the new discourse and gives its particular inflection to the idea of knowledge in that discourse. Descartes' texts will show, firstly, the imposition of the *I* of enunciation upon the order of discourse . . . , an *I* given as the expression of the conscious will of the self; and secondly, the gradual *occultation* (repression) of that first-person subject. This occultation of the *I* of enunciation within discourse is what will permit, at least partly, the assumptions of 'objectivity', transparency of medium and the like.⁵

This reorientation of method towards the experiencing subject has important consequences for the present study. The beholder now existed simultaneously as the model for a new kind of observing subject – the inquiring philosopher *par excellence* – but also as the subject of phenomenological inquiry, while the objects studied were treated as both fully autonomous and yet caught within the toils of scientific inquiry. As illustrated in Descartes's famous dictum, *cogito ergo sum*, researchers studied the world by studying their own encounters with it. Rameau would rely on this orientation through the course of his theoretical career, and its ramifications are worth considering briefly.

First among these was a new emphasis on sensory experience, and Descartes's first philosophical work, the *Compendium musicae* (1618), already exemplifies this trend with respect to music.⁶ Written privately for his friend and mentor Isaac Beeckman, the *Compendium* bears little resemblance to the philosopher's more famous treatises, which began appearing in the late 1630s, and yet Jairo Moreno notes that his characterization of sound as an object of perception – as opposed to, say, a manifestation of *musica universalis* – reveals a new kind of materiality in music discourse: 'Uncompromisingly programmatic, the statement not only proclaims the centrality of the external, physical and empirical manifestation of sound to his inquiry about music, but also, albeit indirectly, makes of perception the fundamental issue about knowledge of music.'⁷ In a break with earlier writers like Zarlino, the listening subject is now an active receptor who hears, measures and orders sounds in the act of perceiving them.⁸ Kate van Orden similarly stresses the physical responses of the beholder, noting that Descartes's anecdotes and references in the *Compendium* dwell on moments where sound is heard and processed: the percussiveness of cannon fire, the pleasant sensations accompanying certain musical gestures, the repetitions built into both Jesuit instruction and the drilling of soldiers.⁹ And

5 Timothy J. Reiss, 'Cartesian Discourse and Classical Ideology', *Diacritics* 6/1 (1976), 19 (original italics).

6 See Jairo Moreno, *Musical Representations, Subjects, and Objects: The Construction of Musical Thought in Zarlino, Descartes, Rameau, and Weber* (Bloomington: Indiana University Press, 2004), 50–85; Kate van Orden, 'Descartes on Musical Training and the Body', in *Music, Sensation, and Sensuality*, ed. Linda Phyllis Austern (London: Routledge, 2002), 17–38; Gaukroger, *Descartes: An Intellectual Biography*, 74–80; Pascal Dumont, 'Introduction', in René Descartes, *Abrégé de musique suivi des Éclaircissements physiques sur la musique de Descartes du R. P. Nicolas Poisson*, trans. Pascal Dumont (Paris: Méridiens Klincksieck, 1990), 13–44; and Frédéric de Buzon, 'Présentation', in René Descartes, *Abrégé de musique*, trans. Frédéric de Buzon (Paris: Presses universitaires de France, 1987), 5–18.

7 Moreno, *Musical Representations, Subjects, and Objects*, 55.

8 Moreno, *Musical Representations, Subjects, and Objects*, 62; Gaukroger, *Descartes: An Intellectual Biography*, 79.

9 Van Orden, 'Descartes on Musical Training and the Body', 18–26.



the ordinariness of these experiences, their basis in mundane experience, is precisely the point – hearing, repeating, understanding and recalling determine the course of critical reflection and ultimately indicate which musical properties are of interest, without recourse to specialized forms of intellection.¹⁰ Descartes proposes that the sensual pleasure of listening to music derives from distinguishing among its simplest parts and comparing them, much as his admiration for a well-made astrolabe responds to its housing, assembly and decoration, apart from its ability to perform complex calculations.¹¹

What matters for my argument, then, is not that Descartes established in the *Compendium* a lasting model for interactions between mind and body – his later works are more important in this respect – but rather that he exemplifies a view wherein sound acts physically on listeners: this would remain commonplace well into the eighteenth century. We observe something like it, for example, in the *Traité du beau* (1715) of the Swiss philosopher Jean-Pierre de Crousaz, who begins his discussion of musical beauty by first explaining the propagation of sound, its transmission through air and its subsequent capture within the anatomy of the ear.¹² The trajectory of the experience is crucial; sound's physical properties lead one to consider the emotional responses it evokes. While differing in details, Rameau effects a similar orientation of sound and subject whenever he reminds readers that even inexperienced listeners respond to the fundamental bass and *corps sonore*. As David Cohen observes, Rameau's listeners instinctively understand (*sous-entendu*) the theoretical phenomena he describes because these are attributes of sound as it exists in nature: 'The selfsame Nature that operates objectively in the *corps sonore* as a physical phenomenon also appears *within* the human subject as the faculty correlative to that phenomenon'.¹³ Further, in a society that valued social decorum, the effects of sound on listeners carried significant moral implications. When Bossuet described how opera corrupts audiences, he employed essentially the same phenomenology that Descartes had used:

Si Lully a excellé dans son art, il a deû proportionner comme il a fait, les accents de ses chanteurs et de ses chanteuses à leurs récits et à leurs vers: et ses airs tant repetez dans le monde, ne servent qu'à insinuer les passions les plus decevantes, en les rendant les plus agréables et les plus vives qu'on peut par le charme qu'une musique, qui ne demeure si facilement imprimée dans la mémoire, qu'à cause qu'elle prend d'abord l'oreille et le coeur.¹⁴

If Lully has excelled in his art, it is because he has accommodated the accents of his singers to their speeches and verses, and his airs, so widely repeated in the world, serve only to insinuate the most deceptive passions, rendering them more pleasant and lively by the charm of music, which remains so easily imprinted in the memory, having captured the ear and the heart.

Arnauld, Boileau, and Saint-Évremond all provided similarly phrased commentaries.¹⁵

10 Gaukroger, *Descartes: An Intellectual Biography*, 75–76; Buzon, 'Présentation', 8–9.

11 Dumont, 'Introduction', 19–21; Buzon, 'Présentation', 12; Van Orden, 'Descartes on Musical Training and the Body', 19–26.

12 Jean-Pierre de Crousaz, *Traité du beau* (Amsterdam: l'Honoré, 1715; facsimile edition, Geneva: Slatkine, 1970), 171–302.

13 David E. Cohen, 'The "Gift of Nature": Musical "Instinct" and Musical Cognition in Rameau', in *Music Theory and Natural Order from the Renaissance to the Early Twentieth Century*, ed. Suzannah Clark and Alexander Rehding (Cambridge: Cambridge University Press, 2001), 91. Interestingly, appeals to nature of the kind cited here were not uncommon in Descartes's important sixth meditation (1641), where he laid out the case for distinguishing between mind and body. See Desmond M. Clark, *Descartes's Theory of Mind* (Oxford: Clarendon, 2003), 118–120, and, more generally, Cohen, 'The "Gift of Nature"', 87–92.

14 Jacques-Bénigne Bossuet, *Maximes et reflexions sur la comedie* (Paris: Anisson, 1694), 7–8.

15 See Antoine Arnauld, 'Lettre de monsieur Arnaud docteur de Sorbonne a M. ***', in *Recueil de plusieurs lettres de m. Arnaud docteur de Sorbonne* (Cologne: Marteau, 1697), 191–229; Nicolas Boileau, 'Satire X', in *Oeuvres poétiques de Boileau*, ed. M. Auger (Paris: Brière, 1825), 143–173; and Charles de Saint-Évremond, 'Les Opera, comedie', in *Oeuvres de monsieur de Saint-Evremond, publiées sur les manuscrits de l'auteur*, seven volumes (London: Tonson, 1711), volume 3, 211–307.



We should note, too, how this epistemological framework prioritizes the responses of the individual; as Pascal Dumont puts it, once musical experiences are decoupled from the music of the spheres, they become taste-based judgments rooted in subjectivity.¹⁶ This has historical consequences. Descartes may present himself in the *Meditationes de prima philosophia* (1641) as an idealized version of the inquiring subject, writing in comfortable seclusion before a fireplace, but in social practice his isolation quickly gives way to a host of autonomous subjects recording discrete experiences. Thus in his correspondence with Mersenne, when he rejects the notion that certain intervals evoke similar responses in all listeners, he is making the case for his radical subjectivity:

Mais, pour déterminer ce qui est plus agréable, il faut supposer la capacité de l'auditeur, laquelle change comme le goust, selon les personnes; ainsi les vns aimeront mieux entendre vne seule voix, les autres vn concert, &c.; de meme que l'vn aime mieux ce qui est doux, & l'autre ce qui est vn peu aigre ou amer, &c.¹⁷

To determine what is more agreeable, it is necessary to assume the capacity of the auditor, which, like taste, varies from person to person. Thus some will prefer hearing a single voice, others a concert and so on, just as one person prefers that which is sweet and another that which is a little tart or bitter

Similarly, when Crousaz introduces music as a topic in the *Traité*, it is precisely this attribute that fascinates him:

S'il y en a qu'elle enchante, il s'en trouve aussi qui ne la peuvent souffrir; elle calme l'inquietude des uns, elle en fait naître dans les autres; on en voit chez qui elle répand l'allegresse, & on en voit qu'elle rend sombres & rêveurs. Parmi ceux qui l'aiment, quelle diversité de goûts ne se rencontre-t-il pas? Le Peuple veut des Vaudevilles & des airs à danser; mais pour ce qui est des ouvertures, des Chacones & d'autres airs de cette force, il n'y aperçoit que du bruit.¹⁸

If there are some whom [music] enchants, others are also found who cannot stand it. It calms inquietude in some while giving rise to it in others. Some are seen in whom it imparts liveliness, while it renders others sombre and dreamy. Among those who enjoy it, what diversity of taste is not encountered? [Some] people want vaudevilles and dance tunes, but in overtures, chaconnes and other airs of this intensity [they] perceive only noise.

Inevitably, the question of personal taste becomes a major theme in seventeenth-century literature. It is a vast topic; we can for the present observe its influence on popular *entretiens* literature, where dialogues carefully stage the opinions of multiple characters. Well-known examples include Honoré d'Urfé's *L'Astrée* (1607–1627), Madeleine de Scudéry's *Artamène ou le grand Cyrus* (1648–1653), Fontenelle's *Entretiens sur la pluralité des mondes* (1686) and Charles Perrault's *Parallèles des anciens et des modernes* (1688); in music, Jean-Laurent Le Cerf de la Viéville's *Comparaison de la musique italienne et de la musique française* (1704) provides an obvious example. I will argue that Rameau resists predicting the effect certain musical gestures have on listeners for effectively the same reasons. He may believe, to be sure, in the expressive force of isolated musical gestures, but he nevertheless does not make detailed claims for how they will dispose listeners to respond.

16 Dumont, 'Introduction', 23.

17 René Descartes, *Oeuvres de Descartes*, ed. Charles Adam and Paul Tannery, revised edition, eleven volumes (Paris: Vrin, 1964–1974), volume 1: *Correspondance, Avril 1622-Février 1638* (1969), 108. The reticence Descartes displays in this context is not uncommon. On Descartes's correspondence with Mersenne see Charles Dill, 'Music, Beauty, and the Paradox of Rationalism', in *French Musical Thought, 1600–1800*, ed. Georgia Cowart (Ann Arbor: UMI, 1989), 197–210.

18 Crousaz, *Traité du beau*, 171. Compare his introduction of the topic of beauty itself, at the beginning of his treatise (1–2); music thus illustrates *in nuce* the problems raised by beauty as a topic of enquiry.



Finally, we should note that later writers could easily adapt this discourse of experience, body and mind to Locke's claim that nothing exists in the intellect without first existing in the senses.¹⁹ Crousaz again provides a useful example. Trained in the rational philosophy of Descartes, Malebranche and Arnauld, his popular treatise on logic, first published as *Système de reflexions* (1712), nevertheless acknowledges the influence of Locke two years prior to the publication of the *Traité du beau* (1715).²⁰ In passages like the following, it is difficult not to see old and new arguments rubbing shoulders:

La volonté de l'homme se détermine encore par d'autres causes, différentes de l'idée d'un bien dont l'on se propose de jouir. Ainsi les discours, l'air, le ton de la voix d'une personne, une musique, une promenade, une lecture, nous rendront de bonne ou de mauvaise humeur, répandront dans notre coeur le trouble ou la tranquillité, ou suivant ces differens états, nous formons des projets & nous nous déterminons differemment. On appelle *impulsives* les causes qui contribuent ainsi a nous déterminer: toute cause finale est bien impulsive, mais par les exemples que nous venons d'alleguer il paroît que toute impulsive n'est pas finale.²¹

Human will is determined by still other causes, different from the idea of a good one is supposed to enjoy. Thus a person's speech, looks and tone of voice, some music, a stroll or reading will leave us in a good or bad mood, cause our heart trouble or tranquillity, or else, following these different states, we form projects and make up our minds differently. The causes that determine our course are called *impulsive*: all final causes are impulsive, but according to the examples just cited, it is apparent that not all impulses are final.

On one hand, the sensory stimuli acting on the subject resemble the kinds of experience we have seen writers describing for the past century; on the other, however, we observe subject formation transpiring in terms of Locke's corpuscular mechanics, expressed in the characteristic notion of impulse. Later generations of French thinkers were quick to criticize the ease with which Crousaz shifted between Cartesian and Lockean models of experience.²²

The stronger French-language adaptation of Locke's arguments occurred seven years later, in Dubos's *Reflexions critiques sur la poesie et sur la peinture* (1719). For Dubos, who had met Locke, the nature of sensory experience, its relation to the body and its influence over moral character might well exist, but they were irrelevant for understanding responses to artworks:

Raisonne-t'on, pour sçavoir si le ragoût est bon ou s'il est mauvais, & s'avisa-t'on jamais, apres avoir posé des principes géométriques sur la saveur, & défini les qualités de chaque ingredient qui entre dans la composition de ce mets, de discuter la proportion gardée dans le mélange, pour decider s'il est bon? On n'en fait rien. Il est en nous un sens fait pour connoistre si le Cuisinier a operé suivant les regles de son art.²³

Does one reason in order to know whether a stew is good or bad? Does one think of imposing geometrical principles on [the act of] savouring or defining the qualities of each ingredient that goes into making this dish in order to decide whether it is good? We do nothing of the sort! There

19 Cohen, "The 'Gift of Nature'", 86.

20 Paul Schuurman, *Ideas, Mental Faculties, and Method: The Logic of Ideas of Descartes and Locke and Its Reception in the Dutch Republic, 1630–1750* (Boston: Brill, 2004), 89–109; Jacqueline E. de La Harpe, *Jean-Pierre de Crousaz (1663–1750) et le conflit des idées au siècle des lumières* (Berkeley: University of California Press, 1955), 206–213.

21 Jean-Pierre de Crousaz, *Système de reflexions qui peuvent contribuer à la netteté & l'étendue de nos connoissances: ou nouvel essai de logique*, two volumes (Amsterdam: l'Honoré, 1712), volume 1, 275.

22 La Harpe, *Jean-Pierre de Crousaz*, 207, note 2.

23 [Jean-Baptiste Dubos,] *Reflexions critiques sur la poesie et sur la peinture*, two volumes (Paris: Mariette, 1719), volume 2, 307.



is within us a sense made expressly for knowing whether a cook has proceeded according to the rules of his art.

The rejection of geometry makes clear Dubos's rejection of Cartesian proof, but his argument is more potent than that, because he is also rejecting the role of a priori reason implicit in the *cogito*. What matters is what the individual feels, and feelings, for better and worse, arise through mimetic identification with the object portrayed:

Il est en nous un sens destiné pour juger du mérite de ces ouvrages, qui consistent en l'imitation des objets touchants dans la nature . . . C'est l'oreille lors qu'il est question de juger si les accents d'un recit sont touchants où [*sic*] s'ils conviennent aux paroles, & si le chant en est mélodieux.²⁴

There is within us a sense destined for judging the merit of those works that imitate the touching objects [found in] nature . . . This is the ear when it is a matter of judging whether the accents of a recitative are touching or agree with the words and whether a song is melodious.

Dubos's *Reflexions* was reprinted throughout the eighteenth century, and we find his arguments for mimetic art and emphasis on fully interiorized responses to stimuli echoed, for example, in Charles Batteux's equally popular *Les Beaux art réduits a un même principe* (1747). As Cynthia Verba has observed, mimesis and, to some extent, Cartesian reason still played significant roles in later thought, especially in the earliest efforts of the Encyclopedists, but the overarching trend was towards ever more extreme forms of Dubos's position.²⁵ One notices this already in d'Alembert's *Discours préliminaire* to the *Encyclopédie* (1751), where he rejects Cartesian a priori knowledge in favour of the senses:

Les directes sont celles que nous recevons immédiatement sans aucune opération de notre volonté; qui trouvant ouvertes, si on peut parler ainsi, toutes les portes de notre ame, y entrent sans résistance & sans effort . . . Toutes nos connoissances directes se réduisent à celles que nous recevons par les sens; d'où il s'ensuit que c'est à nos sensations que nous devons toutes nos idées.²⁶

We receive direct knowledge immediately, without any operation of our will; it is the knowledge that finds all the doors of our souls open, so to speak, and enters without resistance and without effort . . . All our direct knowledge can be reduced to what we receive through our senses; whence it follows that we owe all our ideas to our senses.

For Diderot, writing in the *Lettre sur les sourds et muets* (1751), this is what makes music the most expressive of the arts:

Comment se fait-il donc que des trois arts imitateurs de la nature, celui dont l'expression est la plus arbitraire & la moins précise, parle le plus fortement à l'ame? Seroit-ce que montrant moins les objets, il laisse plus de carrière à notre imagination; ou qu'ayant besoin de secousses pour être émus, la Musique est plus propre que la Peinture & la Poésie à produire en nous cet effet plus tumultueux?²⁷

How is it that, of the three arts that imitate nature [painting, poetry and music] the one whose expression is the most arbitrary and least precise should speak most loudly to the soul? Would it be that, in showing objects less, it allows more freedom to our imagination, or that, because we

24 Dubos, *Reflexions critiques*, volume 2, 307.

25 Verba, *Music and the French Enlightenment*, 51 and 73–81.

26 Jean Le Rond d'Alembert, 'Discours préliminaire des editeurs', in *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, thirty-five volumes (Paris: Briasson, David, Le Breton, Durand, 1751–1780), volume 1, i–ii; Jean Le Rond d'Alembert, *Preliminary Discourse to the Encyclopedia of Diderot*, trans. Richard N. Schwab and Walter E. Rex (Chicago: University of Chicago Press, 1995), 6.

27 [Denis Diderot,] *Lettre sur les sourds et muets, a l'usage de ceux qui entendent & qui parlent* (1751).



must be shocked to be moved, music is better than painting or poetry at producing in us more tumultuous effects?

The move away from rationally conceived exterior processes is complete. Stripped of language altogether, music shakes and jolts (*secousses*) the senses to elicit responses from the beholder.

What this summary allows us to see is something that both Christensen and Cohen have pointed out, namely, that the intellectual basis for Rameau's theories was largely conservative.²⁸ But it also shows us that he was not alone in this. D'Alembert, again in the *Discours préliminaire*, acknowledges Descartes as a model for *philosophes*, but also acknowledges the persistence of a philosophical method he regards as outmoded: 'Let us always respect Descartes, but let us readily abandon opinions that he himself would have combatted a century later' ('Respectons toujours Descartes; mais abandonnons sans peine des opinions qu'il eût combattues lui-même un siècle plus tard').²⁹ By emphasizing rational deduction over physical sensation, Rameau's theories remained rooted in the past, closer to Crousaz and his seventeenth-century predecessors than to the composer's immediate contemporaries.³⁰ What concerns us here, then, are the assumptions on which Rameau bases his discussions of expression, and fortunately we have some evidence for what he believed.



Rameau's beliefs about how music acted on the body sound disappointingly simple, but this is because, in crucial ways, he believed it was a simple process. In the *Traité de l'harmonie* (1722), he wrote:

Que ce principe est merveilleux dans sa simplicité! Quoi tant d'Accords, tant de beaux chants, cette diversité infinie, ces expressions si belles & si justes, des sentimens si bien rendus, tout cela prouviend de deux ou trois Intervalles disposez par Tierces, dont le principe subsiste dans un Son.³¹

How marvellous in its simplicity is this principle [of the fundamental bass]! So many chords, so many beautiful songs, this infinite diversity, these beautiful and just expressions, these sentiments so well rendered: all of this derives from two or three intervals arranged by thirds, the principle for which rests on a single sound.

His purpose here was to praise the fundamental bass, and he intended his remarks about expression and sentiments to support this point. More often, however, the passions sat in uneasy balance with Rameau's theoretical goals. Thus in the *Generation harmonique* (1737) he wrote that 'music, like other aspects of mathematics, embraces the knowledge of relationships, but it can also, like eloquence and poetry, boast of exciting and calming the passions' ('[La musique] embrasse, comme les autres parties des Mathématiques, la connoissance des rapports, mais qu'elle peut encore se vanter, aussi bien que l'Eloquence & la Poésie, d'exciter & de calmer à son gré les passions').³² Though mentioned in the same breath as theory, expression remained discrete from it. Elsewhere, Rameau seemed concerned with theoretical problems that were ontologically prior to expression: 'music is a physical and mathematical science – sound its physical object, and the relationships between different sounds its mathematical object; its goal is to please and excite in us diverse passions' ('La Musique est une Science Phisico-mathématique, le Son en est l'objet Phisique, & les rapports trouvés entre différens Sons en font l'objet Mathématique; sa fin est de plaire, & d'exciter en nous diverses

28 Cohen, 'The "Gift of Nature"', 91–92; Christensen, *Rameau and Musical Thought in the Enlightenment*, 13. More generally see Verba, *Music and the French Enlightenment*, 52–54.

29 D'Alembert, 'Discours préliminaire', xxix; D'Alembert, *Preliminary Discourse*, 90.

30 In this context, it is interesting that Yves-Marie André, a follower of Malebranche, would offer a digression on the *corps sonore* before explaining musical beauty in his *Essai sur le beau* (1741). See Yves-Marie André, *Essai sur le beau, nouvelle édition* (Paris: Ganeau, 1770), 136–141.

31 CTW, volume 1, 158.

32 CTW, volume 3, 6.



passions').³³ Expression in this instance transpires at an experiential stage consequent to his theoretical concerns, effectively absolving him from explaining the relationship between music and passion.

When Rameau did acknowledge expression theoretically, it was usually in the context of *modulation*, by which he meant harmonic progressions in general, whether or not they remained in a single key.³⁴ Thus in the *Traité* (1722) he drew a correspondence between modulation and text:

Les paroles que l'on met en Musique, ont toujours une certaine expression, soit triste, soit gaye, que l'on ne peut se dispenser de rendre, tant par le Chant, & par l'Harmonie, que par le mouvement; . . . si bien que tout le dessein de la Piece roule sur ce Chant, sur cette Harmonie & sur ce Mouvement, en se proposant d'abord un Ton, un Mode, un Mouvement & un Chant convenable aux expressions, & en conformant ensuite son Harmonie au Chant qui aura été composé pour ce sujet: Ainsi le Mouvement ne devant point changer, excepté que le sens de la parole ne le demande, & le Ton ou le Mode ne changeant que pour introduire de la diversité dans le Chant & dans l'Harmonie; c'est principalement sur la suite, & sur le progrès du Chant que roule tout le dessein.³⁵

The words set to music always have a certain expression, either sad or gay, that must be rendered with melody, harmony and movement . . . The entire design of the piece unfolds according to this melody, harmony and movement, first taking a pitch, mode, movement and melody that agree with the expression and then making the harmony conform to the melody. The movement ought not change, except when the sense of the words demands it, and the key or mode changes only to introduce variety into the melody and harmony. The entire design of the song rests principally on its continuity and progress.

Throughout his career, Rameau bound musical design to subtleties in the poetic message, and in this sense, text determined the course of the musical composition in an arguably expressive way: shifts in the music's unfolding coincided with shifts in the text's unfolding. But this also meant that music transmitted little on its own; the listener knew *what* the music expressed because she heard the words to which it was set. In the *Nouveau système de musique théorique* (1726), Rameau returned to the infinite diversity celebrated in the *Traité*, illustrating harmony's expressive potential with eighty harmonizations of an ascending fourth. Crucially, however, he didn't tell readers what each harmonization expressed; his point, rather, was diversity itself, the surfeit of expressive possibilities generated by his system: 'if it is not absolutely impossible to determine the melodies and modulations . . . that best agree with the most marked expressions, it is nevertheless an enterprise that would demand most of the lifetime of a single individual' ('S'il n'est pas absolument impossible de déterminer les Chants, & les *Modulations* en consequence, qui conviendroient le mieux aux expressions les plus marquées, c'est d'ailleurs une entreprise qui demanderoit peut-être plus que la vie d'un seul homme').³⁶ Music thus brims with expressive potential derived from its simplest elements, but for this very reason one cannot specify the connotations of each harmony.³⁷ One can almost hear Descartes's response to Mersenne in this passage; music is expressive, but its expressions are indeterminate with respect to individual listeners. Like Descartes, Rameau discussed only what he could demonstrate.

As a result, it feels like a breakthrough when we arrive at the *Observations sur notre instinct pour la musique* (1754). There, goaded by Rousseau's *Lettre sur la musique française* (1753), Rameau analyses Armide's monologue, 'Enfin il est en ma puissance', to show that traditional French opera was rife with expressive

33 CTW, volume 3, 29.

34 Cynthia Verba, 'Rameau's Views on Modulation and Their Background in French Theory', *Journal of the American Musicological Society* 31/3 (1978), 467–479.

35 CTW, volume 1, 192–193. See also CTW, volume 2, 53 and volume 4, 194. This idea is developed at some length in Cynthia Verba, *Dramatic Expression in Rameau's 'Tragédie en Musique': Between Tradition and Enlightenment* (Cambridge: Cambridge University Press, 2013).

36 CTW, volume 2, 53.

37 Compare Verba, *Dramatic Expression in Rameau's 'Tragédie en Musique'*, 6, 30 and 36.



potential. It is as close as we get in this period to the kind of exegetical commentary discussed previously, focusing in minute detail on the proper musical phrasing of Quinault's poetic text and the correct operation of the fundamental bass. And yet in this, Rameau's most summary statement on expression, he offers little in the way of expressive technique:

Trois moyens concourent pour lors à la différence des expressions, le côté de Lully descend, passe à la soudominante, & à un nouveau *Bémol* . . . l'autre au contraire monte, passe à la Dominante & à un nouveau *Diéze* . . . Il est vrai qu'on monte & descend de chaque côté; mais on en va trouver la raison dans le moment.

Deux de ces moyens n'en font qu'un, sçavoir, la *Dominante* avec le *Diéze* d'un côté, & la *Soudominante* avec le *Bémol* de l'autre: ce sont d'ailleurs les seuls dont dépende la principale expression en fait de sentimens & de passions: l'autre moyen, sçavoir, la différence du haut & du bas, n'y est qu'accessoire, il la fortifie seulement, cette expression, mais il n'y peut rien par lui-même.³⁸

Three methods contribute to different expressions. On one hand, Lully descends, passing to the subdominant and a new flat . . . on the other, to the contrary, he climbs, passing to the dominant and a new sharp . . . While it is true that [the melody] ascends or descends in each case, the reason is found in the occasion.

Two of these methods amount to the same thing, namely, the dominant with sharp on the one hand and the subdominant with flat on the other. These are, moreover, the only means on which the principal expression depends in making sentiments and passions. The other method, distinguishing between high and low, is accessory; fortifying the expression, it can do nothing by itself.

Most discourse on music from this period was capable of arriving at some form of this conclusion – that harmonic and melodic direction constituted expressive gestures – and so the passage does not, at first blush, strike modern readers as particularly revealing.³⁹ Moreover, Rameau's peculiar numbering of his points indicates that he is, once again, reinforcing a more general theoretical principle, in this instance the primacy of the *corps sonore*: he first emphasizes harmonic progressions, giving each its own numeration, but then conflates them into a single point after proclaiming melodic activity a secondary attribute of expression. Harmony, to the surprise of no reader familiar with Rameau's writings, generates music's relevant expressive features. But there is something else noteworthy in this passage, namely that results can only be described with reference to each other:

La *Soudominante* produira un effet presque égal, soit en montant, soit en descendant, de même que celui de la *Dominante*: on sentira toujours, d'un côté, cette espèce d'humiliation que nous y avons supposée, & de l'autre cette fierté qu'on peut y désirer.⁴⁰

The subdominant will produce nearly the same effect whether climbing or descending [melodically], just like the dominant: on [the flat] side is felt this species of humiliation previously discussed, and on the [sharp side] this species of pride that one desires.

As in Saussurean linguistics, connotation is established by the choices made, but also by those rejected.⁴¹ The composer conveys humiliation by moving to the flat side, but also by avoiding the sharp side, 'if one doesn't

38 CTW, volume 3, 296.

39 See, for example, the discussions in Eric Chafe, *Monteverdi's Tonal Language* (New York: Schirmer, 1991), 11–19, and Chafe, *Tonal Allegory in the Vocal Music of J. S. Bach* (Berkeley: University of California Press, 1991), 65–89. For a discussion of Rameau in this context see Verba, *Dramatic Expression in Rameau's 'Tragédie en Musique'*, 28–30.

40 CTW, volume 3, 296.

41 Ferdinand de Saussure, *Course in General Linguistics*, ed. Charles Bally and Albert Sechehaye, trans. Roy Harris (La Salle, IL: Open Court, 1983), 121–132.



wish to torture [listeners], by drawing on an expression contrary to the sentiment to which this flat gives rise' ('À moins qu'on ne veuille s'y donner la torture pour en tirer une expression contraire au sentiment que ce *Bémole* fait naître').⁴²



Two points require emphasis. First, I would draw attention to the manner in which Rameau pairs emotions. I have in the past viewed this as a musician would: tonal music can only move higher or lower, to the sharp side or the flat, and it follows that these gestures promote passions working in opposition to each other. (We have thus far encountered sadness and happiness, humiliation and pride.) I now believe this picture is incomplete. If musical practice provides the composer only with opportunities for depicting passions in contrast, then we should also acknowledge that the tradition of viewing emotions in opposition extends back at least to Aristotle's *Rhetoric*.⁴³ The theoretical discussions of passions Rameau would probably have known, those of Descartes and Malebranche, likewise dealt with passions as closely related opposing pairs. For Descartes, four of the six fundamental emotions, from which all other emotions derived, were pairs reflecting the opposition of good and bad: love and hate, joy and sadness. Malebranche, less concerned with the structure of emotions, made the same point, evoking the same Saussurrean associations as Rameau: 'we hate only because we love, and the external evil is judged evil only in relation to the good of which it deprives us' ('Car en effet on ne hait, que parce que l'on aime, & le mal qui est hors de nous n'est jugé tel, que par rapport au bien, dont il nous prive').⁴⁴ This suggests a different way of thinking about musical expression. It is not simply that music's movements are conveniently analogous to contrasting passions, but rather that musical movement disposes itself in the same way as the principal passions. I will return to this idea.

My second and larger point relates to the first: there is a central organizing Cartesian passion that Rameau also finds a place for in his scheme. Consider this passage from the *Generation harmonique* (1737) treating the enharmonic genus:

Cependant l'Harmonie commune, par laquelle ce passage d'un Mode à l'autre a lieu, en modifie la dureté, le moment de la surprise passe comme un éclair, & bien-tôt cette surprise se tourne en admiration, de se voir ainsi transporté d'un Hémisphere à l'autre, pour ainsi dire, sans qu'on ait eu le tems d'y penser'.⁴⁵

The common harmony, by which this movement from one mode to another takes place, modifies the harshness [of the progression]. The moment of surprise passes like a flash of lightning, and this surprise soon turns to wonder [*admiration*] at seeing oneself thus transported from one hemisphere to the other, so to speak, without having time to think about it.

Rameau uses the word *admiration* here in its older sense of experiencing astonishment at an extraordinary event.⁴⁶ The listener in this situation admires neither the composer nor the compositional device, but the experience she undergoes.

This kind of wonder had a rich history. Its roots were traceable to Aristotle's *Metaphysics*, where it was treated as the basis for philosophical discovery: 'Now he who wonders and is perplexed feels that he is

42 CTW, volume 3, 297.

43 'The emotions are all those affections which cause men to change their opinion in regard to their judgments, and are accompanied by pleasure and pain; such are anger, pity, fear, and all similar emotions and their contraries'. Aristotle, *The 'Art' of Rhetoric*, trans. John Henry Freese (Cambridge, MA: Harvard University Press, 1926), book 2, section 1, line 4.

44 [Nicolas Malebranche,] *De la recherche de la vérité* (Paris: Pralard, 1674–1675), volume 2, 141; Nicolas Malebranche, *The Search after Truth*, ed. and trans. Thomas M. Lennon and Paul J. Olscamp (Cambridge: Cambridge University Press, 1997), 347.

45 CTW, volume 3, 91.

46 *Le dictionnaire de l'Académie française* (Paris: Coignard, 1694), entry for 'admirer'.



ignorant . . . ; therefore if it was to escape ignorance that men studied philosophy, it is obvious that they pursued science for the sake of knowledge, and not for any practical utility.⁴⁷ For Descartes, who generally associated Aristotle with the Scholastic philosophers he distrusted, wonder was similarly ‘the first of all the passions’, because it occurred ‘before we know whether or not the object is beneficial to us It is only knowledge of the thing that we wonder at’ (‘Et pour ce que cela peut arriver avant que nous connoissions aucunement si cet objet nous est convenable, ou s’il ne l’est pas, il me semble que l’Admiration est la premiere de toutes les passions Dont la raison est que, n’ayant pas le bien ny le mal pour objet, mais seulement la connoissance de la chose qu’on admire’).⁴⁸ He echoes Aristotle’s use of wonder, but adds to it the characteristic seventeenth-century phenomenology described at the outset of this article. His concern is for the manner in which stimuli act on the beholder to produce passionate responses. Malebranche, influenced by Descartes, likewise believed that wonder acted only on the mind and not the heart to produce intellectual experiences:

Dans l’admiration les esprits animaux sont poussez avec force vers les endroits du cerveau, qui representent l’objet nouveau selon ce qu’il est en luy-mesme; ils y font des traces distinctes & assez profondes pour s’y conserver longtemps; l’esprit en a par consequent une idée claire, & il s’en ressouvient facilement. Ainsi on ne peut nier que l’admiration ne soit tres-utile pour les sciences, puisqu’elle applique & qu’elle éclaire ainsi l’esprit. Ce n’est pas la mesme chose des autres passions: elles appliquent l’esprit, mais elles ne l’éclairent pas.⁴⁹

In wonder, the animal spirits are forced towards those parts of the brain representing the new object as it is in itself; there they make distinct traces that are deep enough to be preserved a long time. Consequently, the mind has a sufficiently clear idea of the object and easily remembers it. Hence, it is undeniable that wonder is very useful to the sciences, since it applies and illumines the mind. Such is not the case with the other passions; they apply the mind, but they do not illumine it.

Through wonder, the strange becomes familiar, the unknown known. Like Aristotle, both philosophers regarded it as valuable because it provided the thrill that made learning worthwhile.⁵⁰

Though Descartes’s views on the passions connected him with a venerable philosophical tradition, his application of these principles was characteristically original. Indeed, the passions held an important place in Descartes’s later thought because they allowed him to introduce what he called ‘substantial union’ into his famously dualistic treatment of mind and body.⁵¹ The passions, in other words, illustrated how mind and

47 Aristotle, *Metaphysics, Books I-IX*, trans. Hugh Tredennick (Cambridge, MA: Harvard University Press, 1933), book 2, section 1, line 10. More generally see Jonathan Lear, ‘Kartharsis’, in *Essays on Aristotle’s Poetics*, ed. Amélie Oksenberg Rorty (Princeton: Princeton University Press, 1992), 323–324.

48 Descartes, *Oeuvres de Descartes*, volume 11: *Le monde, Description du corps humain, Passions de l’ame, Anatomica, Varia* (1974), 373 and 381; René Descartes, *The Philosophical Writings of Descartes*, three volumes, trans. John Cottingham, Robert Stoothoff and Dugald Murdoch (Cambridge: Cambridge University Press, 1985-), volume 1, 350 and 353.

49 Malebranche, *De la recherche de la verité*, volume 2, 210–211; Malebranche, *The Search after Truth*, 385, see also 375–376. Descartes’s influence can similarly be seen in the Port-Royal Logic, chapter 9. See [Antoine Arnauld and Pierre Nicole,] *La logique ou l’art de penser* (Paris: Guignart, Savreux, Launay, 1672), 75–79.

50 Fisher, *The Vehement Passions*, 1–2; James, *Passion and Action*, 169–170.

51 Descartes uses the expression ‘substantial union’ in a January 1642 letter to Henricus Regius: ‘We affirm that human beings are made up of body and soul, not by the mere presence or proximity of one to the other, but by a true substantial union’ (‘Sed quoniam multò plures in eo errant, quod putent animam à corpore non distingui realiter, quàm in eo quod admissà eius distinctione vnionem substantialem negent’). Descartes, *Oeuvres de Descartes*, volume 3: *Correspondance, Janvier 1640-Juin 1643* (1969), 508; Descartes, *The Philosophical Writings of Descartes*, volume 3, 209. See also his correspondence with Princess Elisabeth of Bohemia of 28 June 1643. René Descartes and Princess Elisabeth of Bohemia, *The Correspondence between Princess Elisabeth of Bohemia and René Descartes*, ed. and trans. Lisa Shapiro (Chicago: University of Chicago Press, 2007), 65 and 71. On the importance of substantial union, both with respect to Descartes’s thought in general and to his treatment of the passions in particular, see Brown, *Descartes and the Passionate Mind*, 5–10, and Gaukroger, *Descartes: An Intellectual Biography*, 389–391.



body worked together in the course of practical experience. In experiencing external events, the body acted on the soul and the soul, in turn, on the body, creating the emotional states and responses necessary for leading a good life:

Les objets qui meuvent les sens, n'excitent pas en nous diverses passions à raison de toutes les diversitez qui sont en eux, mais seulement à raison des diverses façons qu'ils nous peuvent nuire ou profiter, ou bien en general estre importants; . . . elles disposent l'ame à vouloir les choses que la nature dicte nous estre utiles, & persister en cette volonté: comme aussi le mesme agitation des esprits, qui a coustume de les causer, dispose le corps aux mouvemens qui servent à l'exécution de ces choses.⁵²

The objects that stimulate the senses do not excite different passions in us because of differences in the objects, but only because of the various ways in which they may harm or benefit us, or in general have importance for us. . . . [The passions] dispose our soul to want the things that nature deems useful for us, and to persist in this volition; and the same agitation of the spirits that normally causes the passions also disposed the body to make movements that help us to attain these things.

What distinguished Descartes from earlier commentators was the way in which he used wonder to study other, more complex emotional states. He argued that all emotions derived from six primitive passions (*passions primitives*): wonder, love, hatred, joy, sadness and desire. Placed first among these and treated at greatest length, wonder was fundamental to understanding how all passions functioned. Even though it acted directly on the mind, it possessed 'considerable strength because of the element of surprise, namely, the sudden and unexpected arrival of the impression that changes the movement of the spirits' ('Ce qui n'empesche pas qu'elle n'ait beaucoup de force, à cause de la surprise, c'est à dire, de l'arrivement subit & inopiné de l'impression qui change le mouvement des esprits'). And this experience of surprise, and through surprise wonder, was fundamental to nearly all other emotions: 'Such surprise is proper and peculiar to this passion, so that when it is found in the other passions – and it normally occurs in and augments almost all of them – it is because wonder is joined with them' ('laquelle surprise est propre & particuliere à cette passion: en sorte que lors qu'elle se rencontre en d'autres, comme elle a coustume de se rencontrer presque en toutes & de les augmenter, c'est que l'admiration est jointe avec elles').⁵³

The enthusiasm Rameau so evidently felt in hearing and contemplating the enharmonic genus was therefore not misplaced. Whether or not he was a close reader of the earlier philosophers – and I believe he possessed at least the popular awareness of Descartes common in this period – he was guided theoretically, by wonder, to consider music intellectually, a scenario he re-enacted throughout his theoretical writings. In the *Traité*, he mused on the vexing question of why music affected ancient audiences more profoundly than modern audiences: 'Could it be that the more familiar things become, the less they cause surprise, and that the wonder they arouse when they are new degenerates imperceptibly as we grow accustomed to it, turning ultimately into simple amusement?' ('Seroit-ce en disant, que plus les choses deviennent familiares, moins elles causent de surprise; & que l'admiration où elles peuvent nous jeter dans leur origine, dégenere insensiblement à mesure que nous nous y accoûtumons, & se tourne à la fin en un simple amusement?').⁵⁴

52 Descartes, *Oeuvres de Descartes*, volume 11, 172; Descartes, *The Philosophical Writings of Descartes*, volume 1, 349.

53 Descartes, *Oeuvres de Descartes*, volume 11, 381–382; Descartes, *The Philosophical Writings of Descartes*, volume 1, 353.

Compare the decidedly anti-Cartesian approach of Boileau, who in his translation of Longinus's *Le traité du sublime* (1674) treated wonder as simply one way among many of experiencing the sublime.

54 CTW, volume 1, 1. Compare Descartes on wonder, *Oeuvres de Descartes*, volume 11, 386: 'This passion seems to diminish with use, because the more one encounters rare things that are admired, the more one is accustomed to ceasing to admire them and to thinking that all those that present themselves thereafter are vulgar' ('Et bien que cette passion semble se diminuer par l'usage, à cause que, plus on rencontre de choses rares qu'on admire, plus on s'accoutume à cesser de les admirer, & à penser que toutes celles qui se peuvent presenter par apres sont vulgaires').



We know that Rameau's audiences, too, initially wondered at his music, appreciating it only after repeated hearings.⁵⁵

Similarly, in the *Nouvelles réflexions sur le principe sonore* (1758–1759), he imagined a researcher studying sound propagation by means of a monochord and experiencing wonder on realizing that the proportions of 1/2 and 1/4 were just as important as those of 1/3 and 1/5. (At issue here was the difficulty of perceiving the first octave of the overtone series.) Rameau had described a similar personal experience in the *Démonstration du principe de l'harmonie* (1750), narrating his own discovery of the overtone series in terms reminiscent of Cartesian self-examination. Having placed himself in an artificial state of musical innocence, he reacted immediately: 'My search was not long. The first sound that struck my ear was a beam of light. I suddenly perceived that it was not [a single sound], but that the impression it made on me was compound' ('Ma recherche ne fut pas longue. Le premier son qui frappa mon oreille fut un trait de lumière. Je m'appercus tout d'un coup qu'il n'étoit pas un, ou que l'impression qu'il faisoit sur moi étoit composée; voilà, me dis-je sur le champ, la différence du bruit & du son').⁵⁶ The language here – with its image of a burst of light – sounds remarkably like his description of hearing the enharmonic genus.⁵⁷ Once one is attuned to the rhetoric of wonder, its presence can be observed throughout Rameau's writings, as for example when he uses words like *choc* and *surprise* to describe hearing a *cadence rompue*.⁵⁸ Rameau wanted readers to appreciate his own wonder in studying music, but he also expected listeners to feel a similar constitutive wonder in hearing music's smallest and grandest gestures.

Equally interesting in Rameau's discussion of the enharmonic genus is the way he related it to modulation. Harmonic motion runs parallel to the physical sensations induced in the listener: 'surprise soon turns to wonder at seeing oneself . . . transported from one hemisphere to the other'. In perceiving the transport of harmony, the listener too feels transported, and this strikes me as useful for understanding how music instils

55 See, for example, the following passage from the *Encyclopédie* volume 6, 318: 'In 1735, *Les Indes galantes* appeared to be insurmountably difficult; the majority of audience members left the theatre complaining about music overloaded with semiquavers, of which nothing could be remembered. Six months later, all of the airs from the overture to the last gavotte were parodied and known to everyone. At the revival in 1751, our parterre sang "Brillant soleil", etc., with as much ease as our fathers psalmized "Armide est encore plus aimable", etc.' ('*Les Indes galantes*, en 1735, paroissoient d'une difficulté insurmountable; le gros des spectateurs sortoit en déclamant contre une musique surchargée de doubles croches, dont on ne pouvoit rien retenir. Six mois après, tous les airs depuis l'ouverture jusqu'à la dernière gavotte, furent parodiés & sùs de tout le monde. A la reprise de 1751, notre parterre chantoit *brillant soleil*, &c. avec autant de facilité que nos peres psalmodioient *Armide est encore plus aimable*, &c').

56 CTW, volume 3, 172.

57 See also the *Generation*, CTW, volume 3, 9: 'It was already a great deal for me to have discovered this fundamental bass, which I announced in my *Traité de l'harmonie*; it could be said that this was the purest ray of light, of which in truth the source was still unknown to me: I began to glimpse this source in my *Nouveau système*' ('C'étoit déjà beaucoup pour moi d'avoir découvert cette Basse fondamentale, telle que je l'annonce dans mon *Traité de l'Harmonie*; on peut dire que c'est le plus pur rayon d'une luminaire, dont, à la vérité, la source m'étoit encore inconnue; j'ai commencé à l'entrevoir, cette source, dans mon nouveau Système, & je crois maintenant la toucher de près'). With respect to Rameau's recurring use of light imagery in the context of wonder, it is worth noting that philosophers had associated wonder with the observation and study of rainbows from the time of Aristotle and Plato through to that of Rameau. See Fisher, *Wonder, the Rainbow, and the Aesthetics of Rare Experiences*, 1–31. For an interesting linking of wonder, rainbows and the passions in Descartes's thought see 41–45.

58 CTW, volume 1, 140 and volume 4, 244. The smaller scope of wonder in this context is not inconsistent with our larger topic. See Fisher, *Wonder, the Rainbow, and the Aesthetics of Rare Experiences*, 61–67. In this way, we have to be careful about applying post-Kantian notions of the sublime to seventeenth- and eighteenth-century notions of wonder; the kind of wonder Descartes and Rameau discuss is equally applicable to awe-inspiring events and to the *je ne sais quoi* as precursor to more complex emotional responses. See Richard Scholar, *The Je-Ne-Sais-Quoi in Early Modern Europe: Encounters with a Certain Something* (Oxford: Oxford University Press, 2005), 195–200.



more complex passions.⁵⁹ A *cadence rompue* is scarcely as striking as the *trio des parques* from *Hippolyte et Aricie*, but if wonder is an adequate response to modulation in general, then the difference between the two is one of degree rather than kind. As in Descartes, the experience of wonder permeates all aspects of research and discovery.⁶⁰ It is central to understanding how Rameau believes music moves the passions.



Moving the passions: the commonplace of an external force practised on the body to inspire emotion winds through Rameau's treatises like a well-worn adage. In the *Traité*, for example, he writes: 'It is certain that harmony moves different passions in us according to the harmonies employed' ('Il est certain que l'Harmonie peut émouvoir en nous, différentes passions, à proportion des Accords qu'on y employe').⁶¹ Nevertheless, he offers little more there than general rules to explain how this happens – consonant chords suggest magnificence, chromaticism suffering – confessing once more that exhaustive description is beyond his reach. Elsewhere in the *Traité*, when writing about measure and rhythm, Rameau intends movement literally. Concerning dance types, he writes: 'each character and each passion have their peculiar movement, though this depends on taste more than rules' ('Chaque caractere & chaque passion ont leur mouvement particulier; mais cela dépend plus du goût que des Regles').⁶² He returns to this idea in his Preface to the *Observations*. There he begins by attributing the moving of passions to harmony alone, stating that expressive melodic motion is a secondary effect derived from it. (Above, we encountered his argument in support of this proposition, from later in the treatise.) He then dismisses purely imitative movement as characteristic of Italian music:

Si l'imitation des bruits & des mouvemens n'est pas aussi fréquemment employée dans notre Musique que dans l'Italienne, c'est que l'objet dominant de la nôtre est le sentiment, qui n'a point de mouvemens déterminés, & qui par conséquent ne peut être asservi par tout à une mesure régulière, sans perdre de cette vérité qui en fait le charme. L'expression du Physique est dans la mesure & le mouvement, celle du Pathétique, au contraire, est dans l'Harmonie & les inflexions.⁶³

If the imitation of sound and movement is not employed as frequently in our music as [it is in] in Italian music, this is because the main object in our [music] is sentiment, which doesn't have determined movements and employs regular measure everywhere without losing its charm. Physical expression lies in measure and movement; pathos, to the contrary, in harmony and inflection.

It is a deft move, aligning his theoretical tenets with France's long-standing anxieties over its music, but we should also recall that for Rameau, as noted above, harmony itself, *qua* modulation, entailed a form of movement in its harmonic successions. In the *Code*, he described harmonic motion as engendering emotional responses by moving and altering the listener's disposition. Presumably, at this stage of Rameau's argument, these responses could be explained in a Cartesian manner by virtue of the animal spirits, as a form of mimesis more consistent with Dubos's thought or simply as *sous-entendu*. He chose not to dwell on such details.

59 Compare [Gabriel Bonnot de Mably,] *Lettres à madame la marquise de P... sur l'Opéra* (Paris: Didot, 1741; facsimile edition, New York: AMS Press, 1978), 33: 'Although the sounds of an instrument signify nothing by themselves, is it not experienced every day that they cause various transports in the soul?' ('Quoique les sons d'un instrument ne signifient rien par eux-mêmes, n'éprouve-t-on pas tous les jours qu'ils causent à l'ame différens transports?').

60 Descartes's treatment of the rainbow similarly relies on greater and smaller demonstrations of wonder. See Fisher, *Wonder, the Rainbow, and the Aesthetics of Rare Experiences*, 87–120.

61 CTW, volume 1, 171.

62 CTW, volume 1, 191.

63 CTW, volume 3, 261.



What was important to Rameau was that music act on the listener in a particular manner. Explaining his theoretical principles to a readership of non-musicians in the relatively late *Code*, he took the unprecedented step of devoting a chapter to expression, in which he described listeners as ‘passive harmonic bodies’ (*corps passivement harmonique*) naturally influenced by the *corps sonore*.⁶⁴ Alone, the *corps sonore* did nothing to affect a listener’s emotional state; she felt no surprise at hearing bass movement by a fifth beneath an unchanging harmony, so long as the fundamental bass remained the same.⁶⁵ Inexperienced listeners grasped melodies performed on a horn or trumpet in precisely this way. The situation changes, however, when Rameau introduces harmonic motion away from the initial overtone series: ‘Let us be no more astonished if we pass to [a harmony] that sounds false [on a natural horn or trumpet], the ear being surprised, and surprised in various ways, depending on how closely related the [chord] successions are’ (‘Ne soyons donc plus étonnés que si l’on passe à l’un de ceux qui s’y trouvent faux, l’oreille n’en soit surprise, & surprise de différentes façons, selon qu’il y aura plus ou moins de rapport dans cette succession. Sans doute que la Nature agit sur nous de même que sur ces corps’).⁶⁶ This passage is worth reading closely. As we know, Rameau already considers it astonishing that a horn or trumpet should function according to the overtone series. Departures from that initial series are now equally astonishing because they surprise the ear, and the more abrupt the departure, the more surprising they are. The wonder here is Rameau’s, but it encompasses musical effects he has described elsewhere with the same sense of wonder: the mysteries of the overtone series, the harmonic motion of lowly *cadences rompues* and extravagant enharmonic progressions.

To summarize, I think musical expression operated for Rameau much as wonder operated for Descartes. Descartes believed that primitive emotional states – happiness, sadness; love, hate; desire – derived from an initial experience of wonder that incited an intellectual, rather than physical, response. Physical responses followed instantaneously as the subject contemplated the object of wonder, liking or disliking it. For Rameau, the source of musical wonder in performance was modulation. Theoretically, this wonder derived from any harmonic succession the listener hadn’t anticipated, but quickly gave way to relatively primitive emotional states similarly arranged in pairings of good or bad; anything beyond these primitive emotions, however, could not be predicted solely on the basis of musical content.⁶⁷ In the same way that Descartes’s wonder gave way to happiness and happiness to subtler inflections like pride, so too Rameau’s wonder gave way to positive or negative emotions, revealed first by the harmonic progression and then, more subtly, by its attendant poetic text.

Consider, for example, how his music for the transformation scene in *Pigmalion* (1748) conveys wonder. Thomas Christensen alerts us to Rameau’s symbolic scoring of the overtone series at this moment – as though

64 *CTW*, volume 4, 189: ‘Harmony, in its primitive and natural state such as the *corps sonore* presents it to us (and of which our voice is part), should produce in us, who are passive harmonic bodies, the most natural effect and, consequently, the effect most common to all’ (‘L’Harmonie, dans son état primitif & naturel, tel que la donnent les corps sonores, dont notre voix fait partie, doit produire sur nous, qui sommes des corps passivement harmoniques, l’effet le plus naturel, & par conséquent le plus commun à tous’).

65 *CTW*, volume 4, 189–190: ‘If one then takes as the lowest note [in a harmony] the one nearest the initial low note, allowing it to be heard in the same harmony, then these two low notes, which pleased when they were heard together, will undoubtedly also please when heard in succession, since in each case the same harmony will produce the same effect on the soul’ (‘Qu’on prenne ensuite pour son grave le plus prochain du premier grave, en lui faisant entendre au dessus la même harmonie, ces deux mêmes sons graves, qui lui auront plu ensemble, lui plairont sans doute également à la suite l’un de l’autre, puisque la même harmonie de chaque côté ne pourra produire sur son ame que le même effet’).

66 *CTW*, volume 4, 190. Given Rameau’s description of wonder in the context of the enharmonic genus (‘la surprise passe comme un éclair’), it is worth noting the etymological relationship in French between the verb he uses in this passage, *étonner*, and the noun *tonnerre*, rendering the French expression of surprise as something akin to the English word *thunderstruck*. Compare Fisher, *Wonder, the Rainbow, and the Aesthetics of Rare Experiences*, 47.

67 Compare Mably, *Lettres à madame la marquise de P . . . sur l’Opéra*, 48–49: ‘Not all passions can be linked with music: rage, suffering, joy, fear, vengeance and hope are well suited to song’ (‘Toutes les passions ne peuvent pas s’allier avec la Musique. La colere, la douleur, la joye, la crainte, la vengeance, l’espérance sont très-propres au chant’).



the principle animating Rameau's theoretical system is likewise animating the sculptor's inert statue – but he also stresses that the modulation leading up to this moment is itself noteworthy: the preceding harmony, G major, shifts abruptly to E major for the statement of the overtone series.⁶⁸ In Rameau's epistemology of wonder, this modulation would have been as remarkable as the overtone series itself, because the listener does not anticipate this shift in the fundamental bass. In terms of musical expression, the logic would run as follows. The character Pigmalion hears the chord of nature and expresses wonder:

D'ou naissent ces Accords? Quels sons harmonieux?
Une vive clarté se répand dans ces lieux.⁶⁹

From whence arise these harmonies? What harmonious sounds!
A brilliant light fills this place.

Similarly, the audience member experiences wonder mimetically at hearing the fundamental bass descend by a minor third and, aided by Pigmalion's words, feels something akin to the character's emotional state. It is telling that the sculptor's expression of wonder corresponds not to the transformation, but to harmony and light, indices of wonder in Rameau's theoretical writings. The statue becomes animated only in the moment of silence immediately following.

A similar case can be linked even more closely to Rameau's description of enharmonic wonder in the *Generation harmonique*, namely the famous *trio des parques*, 'Quelle soudaine horreur', from *Hippolyte et Aricie* (1733). Downing Thomas observes that what concerned Rameau was the effect of the enharmonic modulations on the listener, and he argues plausibly that they should be understood physically, even viscerally, as expressing a violent and disturbing passion, *horreur*.⁷⁰ Given what Rameau says about the enharmonic genus and wonder, however, Thomas's case could be extended to understand the passage in terms of wonder as well. Pluton warns Thésée that the *parques* foresee his dreadful future, and in the moment of their utterance, Thésée might have experienced his emotions in a Cartesian manner – an initial stroke of wonder which, with dawning realisation, turns into a more nuanced form of revulsion. In this same way, Rameau's listeners hear the scene from a vantage point analogous to Thésée's: they first experience wonder on hearing the music of the *parques*, which quickly turns to *horreur* at the utter strangeness of the enharmonic modulations.

What I'm proposing, then, serves as a useful complement to modern hermeneutic approaches to analysing Rameau's music, because these tend to draw on Rameau's harmonic practices.⁷¹ Verba's recent work may be taken as an example. Undertaking a fundamentally exegetical project – 'focusing on [Rameau's] concept of musical expression and examining how and where this concept resides in the dramatic settings of his musical

68 Christensen, *Rameau and Musical Thought in the Enlightenment*, 218–231. For related discussions of *Pigmalion* see Geoffrey Burgess, 'Enlightening Harmonies: Rameau's *corps sonore* and the Representation of the Divine in the *tragédie en musique*', *Journal of the American Musicological Society* 65/2 (2012), 407–410; Daniel K. L. Chua, *Absolute Music and the Construction of Meaning* (Cambridge: Cambridge University Press, 1999), 98–101; and Brian Hyer, "'Sighing Branches": Prosopopoeia in Rameau's "Pigmalion"', *Music Analysis* 13/1 (1994), 7–50, which pays particular attention to Rameau's portrayal of Pigmalion's wonder.

69 PIGMALION, | ACTE DE BALLET, | MIS EN MUSIQUE | PAR M. RAMEAU. | Et exécuté pour la première fois par l'Académie Royale de Musique, | le 27. Août 1748. | *Le prix six livres*. | A PARIS, | Chez { | L'AUTEUR, ruë Saint Honoré, vis-à-vis le Caffé de Dupuis. | La Veuve BOIVIN, ruë Saint Honoré, à la Regle d'Or. | M. LECLAIR, ruë du Roule, à la Croix d'Or.} | AVEC APPROBATION ET PRIVILEGE DU ROI, 12–13.

70 Downing A. Thomas, *Aesthetics of Opera in the Ancien Régime, 1647–1785* (Cambridge: Cambridge University Press, 2002), 166–167.

71 Olivia Bloechl provides a survey of these approaches in her review of Verba, *Dramatic Expression in Rameau's "Tragédie en Musique"*, in *Journal of the American Musicological Society* 68/1 (2015), 229–233.



tragedies⁷ – she stresses the manner in which the composer used surprising harmonic progressions to disrupt tonally stable passages.⁷² Writing of the *trio des parques*, for example, she observes:

The passage has attracted so much attention that little notice has been given to the fact that the enharmonic modulations occupy just six fleeting measures . . . and that the rest of the piece, which is an extended ensemble of seventy-three measures, is almost entirely in the key of G minor . . . The overall harmonic setting thus provides the most tonally secure context for the intensely unstable passage. To overlook this context is to overlook an important operating principle for Rameau . . . : that the greater the emotional and harmonic turbulence, the greater the degree of rational control.⁷³

Verba's argument here strikes me as coextensive with Rameau's in the *Code* cited above: a surprising shift in the fundamental bass induces wonder in the listener; indeed, it must induce wonder in the listener to create the response described. The listener, immersed in the musical performance, responds to distinctive passages without necessarily grasping the harmonic progressions or their technical basis.⁷⁴



Wonder, then, is less a skeleton key for unlocking Rameau's secrets than an informative detail allowing us to appreciate how he organized his beliefs about musical expression. He treated it in much the way Descartes did and for some of the same reasons, to describe a primal cognitive experience leading to more complex reactions. This need not constitute a material appropriation of Descartes, though it is interesting to note that an edition of *Les Passions de l'ame* was published in Paris, along with *La Géométrie*, the year Rameau published the *Nouveau système*.⁷⁵ Wonder, rather, represents one set of beliefs commonly held during Rameau's lifetime.

At the same time, Rameau's dependence on wonder signals the old-fashioned strand we often observe in his thought, because, as we have seen, for much of the century, discourse on the passions had moved towards an affirmation of sensory experience. Dubos's *Reflexions critiques sur la poesie et sur la peinture*, for example, showed little interest in wonder or opposing categories of passions; the word *sentiment*, with its overt sensory connotations, was as prominent as the more Cartesian *passion*, and to the extent that wonder was present, it appeared in references to works by others: a description of a figure in Raphael's *St Paul Preaching in Athens* (1515), an emotion underlying a description by Lucian, a passage from Montaigne.⁷⁶ Dubos, like the Encyclopedists who followed, was less interested in describing a phenomenology of experience than in validating the sensorium as a basis for judgment:

Non-seulement le public juge bien d'un ouvrage sans interest, mais il en juge encore ainsi qu'il en faut décider en general, c'est à dire par la voye du sentiment & suivant l'impression que le poëme ou le tableau font sur lui. Puisque le premier but de la poësie & de la peinture est de nous toucher, les poëmes & les tableaux ne sont de bons ouvrages qu'à proportion qu'ils nous émeuvent & qu'ils nous attachent. Un ouvrage qui touche beaucoup doit être excellent à tout prendre.⁷⁷

Not only does the public judge a work disinterestedly, but it judges in such a manner as to decide generally, that is to say, by the path of sentiment and according to the impression the poem or picture makes on it. Since the first goal of poetry and painting is to touch us, poems and pictures

72 Verba, *Dramatic Expression in Rameau's 'Tragédie en Musique'*, 5.

73 Verba, *Dramatic Expression in Rameau's 'Tragédie en Musique'*, 37–38. See also 5 and 35.

74 Verba, *Dramatic Expression in Rameau's 'Tragédie en Musique'*, 6, 30 and 36.

75 See René Descartes, *Les passions de l'ame. Le monde, ou Traité de la lumiere. et La Geometrie*, revised edition (Paris: la Compagnie des libraires, 1726).

76 Dubos, *Reflexions critiques*, volume 1, 100 and 394; volume 2, 18.

77 Dubos, *Reflexions critiques*, volume, 305. On the emerging importance of *sensibilité* with respect to music see Georgia Cowart, 'Sense and Sensibility in Eighteenth-Century Musical Thought', *Acta musicologica* 56/2 (1984), 251–266.



are good only to the extent that they become attached to us. A work that touches a great deal ought to be taken as excellent in all respects.

What made his position radical was its redistribution of emphasis. Anyone undergoing an aesthetic experience would have an emotional response – a point Descartes would readily concede – but Dubos attributed little practical importance to knowing how those responses came into being or inhabited the intellect. They simply did; they were, first and foremost, corporeal responses to corporeal experiences. Closer to Rameau's time, Pierre Estève echoed Dubos's point that aesthetic experiences were measured by the senses. When wonder appeared in his *L'Esprit des beaux arts* (1753), he dismissed it as a purely intellectual exercise:

Il est cependant un goût particulier à chaque peuple. C'est une sorte d'empreinte qui fait reconnoître, pour ainsi dire, le climat des différentes productions; déjà il a été observé que nous tenons du Nord ou plutôt des Gots, ce qui ne sauroit exciter qu'une admiration réfléchie. Les Grecs, habitans d'un climat plus chaud, s'appliquèrent assez constamment à l'expression vraie du sentiment. Les Italiens & les François ne sont, sans doute, dans aucun de ces extrêmes; mais plutôt leurs goûts doivent former comme des nuances intermédiaires.⁷⁸

There is a taste peculiar to each nation. It is a sort of impression that allows them to recognize, so to speak, the climate of different [artistic] products. I have already observed that we of northern, or rather gothic, descent keep to that which produces only a well-considered wonder [*admiration réfléchie*]. The Greeks, [on the other hand,] inhabitants of a warmer clime, apply themselves constantly to the expression of true sentiment. The Italians and the French, without a doubt, belong to neither extreme, but rather form their tastes from intermediate hues.

This mediation of ancient extremes by modern European culture was important to Estève's argument, allowing him to pass over intellectual forms of aesthetic experience however they originated. He carried this characterization of wonder, *qua* intellectual experience, over into his discussion of music:

S'il faut que l'esprit distingue & mesure chaque son, l'habile Musicien trouvera souvent admirable ce qui sera très-insipide à des oreilles ignorantes. Des Difficultés vaincues, des bisarreries ramenées aux loix générales augmenteront les connoissance de l'esprit, & produiront une admiration réfléchie; mais il faudroit avoir le goût gothique pour suivre ces prétendues perfections. Les Beaux Arts doivent avoir autant de puissance sur les ignorants que sur les Sçavans. Leurs effets mécaniques doivent développer dans tous les organes les sentimens & les passions.⁷⁹

If it is necessary for the intellect to distinguish and measure every sound, then the able musician will often discover admirable things that sound insipid to uninformed ears. Difficulties conquered, whims derived from general laws will increase the intellect's knowledge and produce a well-considered wonder, but a gothic taste would be necessary to indulge in these pretended perfections. The fine arts ought to have as much influence over the unlearned as the learned. Their mechanical effects ought to develop sentiment and passion in every organ.

By this line of reasoning music appealed to the senses and, in this respect, functioned much like the other arts. By mid-century, at least, Rameau's Cartesian wonder may have struck some readers as a bit dusty.⁸⁰

78 [Pierre Estève,] *L'esprit des beaux arts*, two volumes (Paris: Bauche, 1753), volume 2, 2.

79 Estève, *L'esprit des beaux arts*, volume 1, 226–227.

80 Montesquieu makes for an interesting comparison. Given his training at Juilly and his friendship with Fontenelle, it is not surprising that elements reminiscent of Descartes, such as his treatment of body and soul and his mention of animal spirits, figure prominently in his incomplete *Essai sur le gout*, published posthumously following Voltaire's entry on taste in the fifth volume of the *Encyclopédie*. Surprise figures prominently in Montesquieu's thoughts on taste without taking on the kind of structural role that wonder assumes in Descartes's and Rameau's thought. Rather, it is simply one attribute of aesthetic experience among many. (In this it resembles Boileau's thought more than Descartes's.)



The question, then, is why Rameau would persist in this particular conception of wonder. On other occasions, as Christensen has pointed out, when intellectual fashions changed Rameau readily substituted Lockean descriptions of harmonic motion for Cartesian ones. And it seems likely that by mid-century Rameau knew and understood the implications of Dubos's and Estève's work: Dubos's *Réflexions* had been widely distributed, with five editions appearing in France before 1750, while Estève was one of the better-known critics of Rameau's music theory, challenging him in 1751 on the identity of the octave, the possibility of transferring intervals from one octave to another and the characterization of the major triad as occurring in nature.⁸¹ (A physicist and mathematician himself, Estève may have had Rameau's theoretical writings in mind when dismissing the importance of intellection for musical experience.) Moreover, Rameau had worked with Diderot on the *Démonstration du principe de l'harmonie* (1750) in the late 1740s, so he should have been familiar with emerging theories of sensibility.⁸²

Several factors may have influenced Rameau's persistence in conceiving the passions similarly to Descartes. First, Dubos's, Estève's and later epistemologies were poorly suited to his needs precisely because they focused on the sensory experiences of the beholder, failing to stress the role of the artwork *qua* artefact in producing emotional responses. This isn't to say that someone like Dubos avoided matters of technique. In discussing theatre, he treated proper declamation and the selection of appropriately moving stories; in poetry, the selection and ordering of words; in painting, the assemblage of component parts into a compelling whole; and in opera, the depiction of natural events in instrumental music. But he regarded the purpose of technique solely as one of moving the beholder. The successful artist applied technical mastery to this end, but the relative merits of individual painters or techniques were irrelevant: 'the greatest painter is the one whose works afford us the most pleasure' ('Le plus grand Peintre pour nous, est celui dont les ouvrages nous font le plus de plaisir').⁸³ There is little distance here between Dubos's position and that of d'Alembert or the later Diderot. Rameau's purpose, to the contrary, was to describe a rationally ordered musical system shaped by natural laws, the technical details of which were audible, generalizable and iterable for anyone who composed or listened to music. The effects of music on the beholder were relevant to his arguments, but not a principal concern because they occurred at a later experiential stage, signalling the successful application of the musical principles he advocated. The closest Rameau came to addressing contemporary theories of musical affect was in the *Observations*, where he treated music's effects on the listener as a matter of 'instinct' – a clear nod to emergent theories of *sensibilité* – but as we have seen, even here he needed to treat experiences not as

It is noteworthy in this context that Montesquieu does consider elements of more recent theories, such as Dubos's, asserting that attributes like beauty belong to perceptions of objects rather than to the objects themselves. See Charles-Louis de Secondat, Baron de La Brède et de Montesquieu, *Essai sur le gout* and, more generally, Downing A. Thomas, 'Negotiating Taste in Montesquieu,' *Eighteenth-Century Studies* 39/1 (2005), 71–90. For an older example that more closely resembles Rameau's thought structurally see Larry F. Norman's discussion of Charles Perrault's *Parallèle des anciens et modernes* (1688–1697) in *The Shock of the Ancient: Literature and History in Early Modern France* (Chicago: University of Chicago Press, 2011), 159–160.

81 See Jacobi's discussion of Estève's *Nouvelle découverte du principe de l'harmonie, avec un examen de ce que M. Rameau a publié sous le titre de Démonstration de ce principe*, in *CTW*, volume 3, xlix.

82 There is particular irony in Rameau's having conceived the transformation scene in *Pigmalion* (1745) in Cartesian terms, given the importance of animated statues in French philosophy. It is useful to recall, however, that Ovid's story was already quite popular by this time and that Rameau composed his opera prior to the best-known discussions of animated statues, those by Condillac and Diderot. On the popularity of the Pygmalion theme in the eighteenth century see J. L. Carr, 'Pygmalion and the *Philosophes*: The Animated Statue in Eighteenth-Century France,' *Journal of the Warburg and Courtauld Institutes* 23/3–4 (1960), 239–255. The only contemporary philosophical treatment of the Pygmalion theme readily available at the time Rameau composed his opera was André-François Boureau-Deslandes's controversial but widely circulated *Pigmalion, ou la Statue animée* (1741), which did in fact adopt a sensationalist viewpoint.

83 Dubos, *Reflexions critiques*, volume 1, 681.



something existing solely within the beholder, but rather as the products of natural laws rooted in harmony.⁸⁴ For Rameau, what was important was that composers and listeners entered into intentional relationships with actual musical objects, the composer writing to elicit responses appropriate to the dramatic situation, the listening subject judging the adequacy of the composition to its task. This was a Cartesian scenario. Wonder grounded it epistemologically in a way that *sensibilité* did not.

Another advantage to avoiding the new *sensibilité* involved music criticism: simply put, responses to music drawing on opinions first formed in the seventeenth century persisted throughout Rameau's career. Indeed, negative reviews of Rameau's operas typically reflected these views in some manner. For example, an anonymous allegory from 1734, almost certainly aimed at Rameau's first opera, *Hippolyte et Aricie*, invoked a remarkably old-fashioned suspicion of musical pleasure:

La faux amour vint s'établir sur la terre, qu'il subjuguera presque tous les mortels, il les blessait avec des flèches empoisonnées, il trainait après lui la jalousie, la fraude, la trahison, l'inconstance, l'indiscrétion; delà vinrent des guerres et des meurtres sans nombre; pour les séduire, il menait avec lui une fausse volupté qui ne ressembloit en rien à la fille de Psyché; elle ne donnoit que des plaisirs grossiers qui ne flattant les sens que pour des instants, les détruisoient en peu de temps.⁸⁵

False love[, just like certain kinds of music,] went on to establish itself on the earth, where it subjugated nearly all mortals, wounding them with poisoned arrows, dragging after it jealousy, fraud, betrayal, inconstancy, indiscretion. Then came wars and murders without number. To seduce them, it brought along a false voluptuousness that in no way resembled Psyché's daughter; it gave only unrefined pleasures that momentarily flattered the senses, destroying them a little at a time.

When music impressed, it also seduced. Where Estève would reject intellectual exercises in music as distracting from sensory experience, this author regarded them instead as leading the listener into the worst kinds of sensuality. Rameau encountered this kind of criticism continuously, both as theorist and composer, and his response was inevitably the same, to argue that all music was subject to laws observable in nature and was thus admissible to personal enjoyment. Beginning with his second treatise, the *Nouveau système*, he became increasingly dependent on perceived geometrical relationships as evidence of these natural laws.

This placed Rameau in an interesting position: we know that his music shocked audiences, an experience easily subsumed under the notion of Cartesian wonder, but we are also familiar with his protestations that his theories and compositions were simple and straightforward because they were rooted in nature. In light of the theorization of wonder undertaken here, those protests can sound disingenuous. His effects were rooted in nature as he perceived it, or at least in a system he had created by observing nature; nevertheless, with each surprising harmonic progression, he must have imagined thrills moving through the beholder's body, knowing full well that some audience members would resist them. We can go further. Rameau typically limited his theoretical observations to harmony, but considering contemporary criticism, we should note that every complex chorus, every richly orchestrated dance induced similar experiences. Ultimately, I believe this has less to do with disingenuousness on Rameau's part than with his subtle rearrangement of the musical

84 Interestingly, Rameau's later quarrels with the Encyclopedists revolved around just this kind of distinction. D'Alembert willingly granted Rameau the utility of the *basse fondamentale*, but had little use for his geometrical proofs and grand philosophical claims. See Alain Cernuschi, *Penser la musique dans l'Encyclopédie: étude sur les enjeux de la musicographie des lumières et sur ses liens avec l'encyclopédisme* (Paris: Champion, 2000), 355–361, and Christensen, *Rameau and Musical Thought in the Enlightenment*, 268–276. As George L. Hersey points out, *admiration* did continue to play an important, if decidedly different, role in French art even among the Encyclopedists. See his *Falling in Love with Statues: Artificial Humans from Pygmalion to the Present* (Chicago: University of Chicago Press, 2009), 97–99. My argument here concerns the shape and structure of Rameau's particular usage, what Foucault would have called its 'conditions of possibility' within Rameau's epistemology.

85 'Lettre de M. *** à Mlle *** sur l'origine de la musique', *Mercur de France* (May 1734), 861–870 and 864.



experience. If every listener is, potentially, a *corps sonore*, every listener a passive body perceiving and receiving the *corps sonore*, then wonder organizes the physiology of the listening experience in a particular manner. It is transmitted by the senses, but in the tradition of Descartes and Malebranche, it ultimately addresses the intellect in a manner that treats the senses as means to an end. This, I think, was important to Rameau, because it permitted him to treat music as a serious topic for discussion, divorced from questions of morality and whims of taste. Where his critics, conservative and progressive alike, assigned musical experiences to the body, a treat for the senses alone, Rameau heard musical effects great and small and experienced wonder, an intellectual emotion.