Conférence

Music and Knowledge Making in the 18th Century



27 – 28 février

Organisée par Amparo FONTAINE
(EHESS, Centre de Recherches Historiques / P. Universidad Católica de Valparaíso)

EHESS, 54 Bd. Raspail
Salle AS1_08

Accès libre, sans inscription préalable.
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MARIE CURIE ACTIONS

L'ÉCOLE DES HAUTES ÉTUDES EN SCIENCES SOCIALES

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PONTIFICIA UNIVERSIDAD CATÓLICA DE VALPARAÍSO

Jeudi 27 février 2025

10:30: Wellcome and Introduction
Amparo Fontaine

11:00-12:00: **The musical body**
Chair: Rafael Mandressi (CNRS / EHESS, Centre Alexandre-Koyré)

Halley Barnet. (St. John's College, U.S.A)
Early Modern Theories of the Vibrating Nerve

Elena Serrano. (Institut d'Història de la Ciència, U. Autónoma de Barcelona)
Music and the Physiology of Emotions at 18th-century Hispanic World

12:00-12:40: Discussion

~ Lunch break ~

14:00-15:00: **History making**
Chair: Silvia Sebastiani (EHESS, Centre de Recherches Historiques)

Maria Semi. (Università di Bologna)
Coherence and knowledge making in music histories (1690-1801)

Philippe Sarrasin Robichaud. (McGill University)
Des recherches exactes et curieuses. The critical historiography of music in Pierre-Jean Burette's edition of Pseudo-Plutarch's De Musica

15:00-15:40: Discussion

~ Coffee break ~

16:00-17:00: **The ear's empire**
Chair: Antonella Romano (EHESS, Centre Alexandre-Koyré)

Leendert van der Miesen. (Bibliotheca Hertziana-Max Planck Institute for Art History)
A Natural History of Music?

David Irving. (ICREA & Institució Milà I Fontanals de Recerca en Humanitats, CSIC Barcelona)
The Emergence of the 'European Ear' in the Eighteenth Century

17:00-17:40: Discussion

Vendredi 28 février 2025

10:00-11:00: **Knowledge actors**
Chair: Pauline Lemaigre-Gaffier (UVSQ-Université Paris-SaclayBr)

Rebecca Cypess. (Yeshiva University)
Women's Self-Fashioning and the Making of Eighteenth-Century Musical Knowledge

Jean-Philippe Echard. (Musée de la Musique, Philharmonie de Paris)
Constructing Knowledge on Violins. Cozio, Lupot, and Savart

11:00-11:40: Discussion

~ Coffee break ~

12:00-12:30: **Theory making**
Chair: Théodora Psychoyou (Sorbonne Université, IReMus)

Nathan Martin. (University of Michigan)
Rameau's Sensationalist Conversion Revisited

12:30-12:50: Discussion

~ Lunch break ~

14:30-15:30: **Nature's magic**
Chair: Melissa Van Drie (ToRS, University of Copenhagen)

Amparo Fontaine. (EHESS, CRH / P. Universidad Católica de Valparaíso)
A Musical Cosmos? Mesmerism, Physics and Social Order

Alexander Rehding. (Harvard University)
Chladni's Sound Figures and the Instruments of Music Theory

15:30-16:10: Discussion

~ Coffee break ~

16:30-17:30: Closing discussion

Description

'The history of the science of music has not yet been written', declared Floris Cohen in his groundbreaking book *Quantifying Music*. Forty years later, we now witness a vibrant field of study and a rich body of scholarship uniting the histories of music and science. Over recent decades, however, the history of science has significantly expanded its scope and methodologies to include a wider range of cultural practices, social actors, and previously overlooked geographical regions. The concept of a 'history of knowledge' (or knowledges) has emerged as a challenge to the traditional notion of 'science' as a monolithic category, often tied to anachronistic, Eurocentric, and teleological narratives.

Building on this methodological framework, the conference aims to discuss the varied approaches to music as both a source and a tool of knowledge in the Enlightenment. It seeks to critically explore what eighteenth-century authors meant when they referred to music as a *science* and discussed it within the leading scientific academies. Yet it also seeks to address a series of practices that flourished outside the academies and are not included in traditional histories of the 'science of music'. Drawing on recent re-evaluations of the roles of commerce, artisanal and material practices in the creation and negotiation of knowledge, the conference will investigate the extent to which musical instruments were viewed as scientific instruments, epistemic tools, and embodiments of knowledge. It will also highlight the significance of music in the study of the body—ranging from medical sciences to performance—and its role in the gradual emergence of the human sciences during this period, particularly in the context of early anthropological and ethnographic research.

By integrating a diverse array of fields, practices, and geographical perspectives on knowledge-making, the conference aims to foster interdisciplinary and collaborative discussions on the scientific claims, methodologies, and challenges that shaped the interplay of music and knowledge during the Enlightenment. Discussions on how different epistemic models of music were confronted and negotiated across disciplines and cultures are particularly welcomed.

Marie Sklowdoska-Curie Project n. 101029971

Résumés

Halley Barnet.

Early Modern Theories of the Vibrating Nerve

In Hermann Boerhaave's *Institutiones medicae* (1708), the famed Dutch physician firmly rejected the notion that the nerves vibrated like elastic musical strings. The notion of nerve vibration was abhorrent to the physical structure of the nerve, which was by nature "soft, pulpy, limp, often folded, and hooked." Most learned observers agreed: we can read similar arguments against vibrating nerves in a plethora of 18th-century anatomical and physiological textbooks and treatises, from James Keill's *The Anatomy of the Human Body Abridg'd* (first published in 1698) to Paul Joseph Barthez's *Nouvelle méchanique des mouvements de l'homme et des animaux* (1798). The preponderance of empirical evidence against the vibrating nerve was seemingly insurmountable. Who then were these apparently foolhardy proponents of vibratory nerve physiology? As it turns out, we can find them across Europe, in the medical faculties of Montpellier and Paris, amongst successive generations of Newtonian physician in Britain, and the Prussian Academy of Sciences in Berlin. They were not without their own anatomical and physiological reasonings, centred around the fibrous composition of the nerves and the centrality of tonic motion to vital function. More fundamentally, however, they were trying to re-imagine the human body as a musical instrument, one which resonated with the sensory stimuli of the internal world, and whose harmonics figured the mind's thoughts. Music and acoustics, I suggest, offered a framework through which early modern physicians and philosophers attempted to theorize the sensitive mechanics of the soul.

Rebecca Cypess.

Women's Self-Fashioning and the Making of Eighteenth-Century Musical Knowledge.

Women's musical practices in eighteenth-century Europe were both encouraged and constrainted by social and cultural norms. These included the expectations that they would cultivate musicianship, but ideally at an amateur level suitable for domestic practice, and that prodigious talents would nevertheless be governed by principles of modesty and naturalness. These social and cultural norms encouraged women musicians to adopt paradigms of womanhood that would account for their apparently exceptional status—that is, to engage in self-fashioning. For example, women modeled their public personae after those of the classical muses, biblical or religious figures such as St. Cecilia and Mary, or divinely ordained political leaders such as Empress Maria Theresa or Queen Charlotte of England. If these paradigms provided "cover" for women's creative artistry, they also shaped that artistry by promoting particular kinds of composition and performance. By examining a series of case studies, this paper explores the mutually reinforcing relationship between women's self-fashioning and their production of musical knowledge.

Jean-Philippe Echard.

Constructing Knowledge on Violins. Cozio, Lupot, and Savart.

This paper discusses some of the earliest documented practices of knowledge construction on violins, from three actors with distinct profiles: a connoisseur, Ignassio Alessandro Cozio, conte di Salabue (1755-1840), a violin maker, Nicolas Lupot (1758-1824), and a physicist, Félix Savart (1791-1841).

By 1775, Ignassio Cozio had assembled the most significant collection of artefacts related to Antonio Stradivari (Cremona, c. 1648-1737), including ten Stradivarius violins along with all the tools and templates from Stradivari's workshop. For the next four decades, Cozio wrote extensively on violin making and its history, studying and describing his collection. In doing so, he became the first connoisseur and antiquarian of historical violins. All his manuscripts remained unpublished.

With his remarkable dedication to studying Stradivarius violins —aimed at understanding their design and reviving Stradivari's construction methods—Nicolas Lupot is widely regarded as the founder of the modern tradition of violin making. This tradition is rooted in the imitation of the works of 17th- and 18th-century Italian makers. Lupot is the quintessential luthier, as revealed *in La Chélonomie ou le parfait luthier*, published in Paris in 1806.

Savart, for his part, conducted experimental studies on the mechanical and vibrational behaviour of the violin, with a particular focus on Chladni's figures. He also organised the first documented perception experiment—a 'blind test'—in partnership with the Académie des Sciences and the Académie des Beaux-Arts, comparing the sound of a Stradivarius to that of a modern instrument.

This presentation suggests that these early contributions laid the groundwork for all subsequent literature that has broadened knowledge of the violin, whether in the fields of acoustics, the history of techniques, or stylistic studies.

Amparo Fontaine.

A Musical Cosmos? Mesmerism, Physics and Social Order

What became of music's millennia-old connection to celestial order during the French Enlightenment? Scholarship has situated the end of the ancient worldview of the harmony of the spheres or *musica mundana* in the seventeenth century, with the so-called scientific revolution. However, this paper proposes that these views saw a resurgence of interest during a distinct 'cosmological moment' in the 1760s and 1770s, a time when music, ancient cosmology, and discoveries in physics became popular topics of public debate and sociability. The convergence of these interests culminated in the widespread fascination with the magnetizing sessions of Franz Anton Mesmer, following his arrival in Paris in 1778. I argue that Mesmer's medical practices and cosmological theories offered a reassessment of ancient themes associated with the harmony of the spheres, within the context of contemporary science. Mesmer claimed to have discovered a magnetic fluid that ran through the universe and was responsible for cosmic and physiological harmony. He believed that sound channelled and enhanced the powers of the magnetic fluid in the body, and therefore accompanied his

sessions with musical performances. Furthermore, his cosmological theory, particularly as presented in the *Théorie du Monde*, closely resembles the musical cosmos described in Plato's *Timaeus*—especially the apocryphal version attributed to the supposed Timaeus of Locri. By examining 18th-century mesmerist sources and medical practices in France, this paper explores how Mesmer's philosophical and medical views on music reveal its connection to invisible physical forces and cosmic order, as well as its significant political power in shaping an ideal social order.

David Irving.

The Emergence of the 'European Ear' in the Eighteenth Century

The ways in which people from Europe experienced, interpreted, and represented the cultural practices they saw and heard in other parts of the world from the sixteenth to nineteenth centuries have long attracted scholarly attention. Mary Louise Pratt has written of the 'imperial eyes' (1992) or colonialist gaze that propelled the production of travel literature and shaped its readership, for example, while Ruth E. Rosenberg (2014) and Thomas Irvine (2020) have examined the 'imperial ears' that acted as aural filters in Europeans' encounters with musics elsewhere. More recently, Irvine (2020) and Zhuqing S. Hu (2021) have also analysed a number of Europeans' comparisons made between 'European ears' and 'Chinese ears' in the late eighteenth century. As they point out, the writings of earwitnesses such as Jean-Joseph-Marie Amiot and John Christian Hüttner fed into European tropes and debates about cross-cultural differences in ways that either challenged or entrenched ideas of China's musical incommensurability with Europe. Yet the idea of a singular 'European' aural disposition or listening attitude – one that transcended the musical contrasts long noted between national cultures of Europe – was still relatively new in the eighteenth century, at least within European-language historiography. Building on part of a recent study on the emergence of 'European music' as a term and concept (Irving 2024), this paper explores the emergence of the literary trope and idea of the 'European ear' from its first isolated glimmers in the early seventeenth century to a sustained theme in eighteenth-century literature.

Hu, Zhuqing S. 2021. 'Chinese Ears, Delicate or Dull? Toward a Decolonial Comparativism'. *Journal of the American Musicological Society* 74, no. 3: 501–569.
Irvine, Thomas. 2020. *Listening to China: Sound and the Sino-Western Encounter, 1770-1839.* Chicago: University of Chicago Press.
Irving, D. R. M. 2024. *The Making of European Music in the Long Eighteenth Century*. New York: Oxford University Press.
Pratt, Mary Louise. 1992. *Imperial Eyes: Travel Writing and Transculturation.* London and New York: Routledge.
Rosenberg, Ruth E. 2014. *Music, Travel, and Imperial Encounter in 19th-Century France: Musical Apprehensions.* London: Routledge.

Nathan Martin.

Rameau's Sensationalist Conversion Revisited

On November 19, 1749, Jean-Philippe Rameau presented his theory of harmony to the Parisian Académie des Sciences. The text he read on that date was published, much revised and expanded, one year later as his *Démonstration du principe de l'harmonie* (1750). The

archives of the Académie des Sciences preserve Rameau's working manuscript, which bears witness to these changes and additions. A second, earlier(?) version of the text also survives in manuscript at the Bibliothèque-Musée de l'Opéra (Christensen 1994). Since Erwin Jacobi at least, scholars have strongly suspected Denis Diderot's considerable involvement in the preparation of Rameau's text. Similarly, the academician assigned to review Rameau's submission was Jean le Ronde d'Alembert, whose extensive report laid the groundwork for his own *Elémens de musique théorique* of 1752. 1749, then, the same year in which Rousseau was writing various articles expounding Rameau's theory for Diderot and d'Alembert's *Encyclopédie*, marks a critical nexus in the *philosophes'* early engagement with Rameau's thought.

In his foundational 1993 study, Thomas Christensen suggested that Rameau's *Démonstration* marks a shift—paradoxically, given its context—*away* from the scientistic rhetoric of the *Génération harmonique* (1737). This shift towards Lockean philosophical psychology is the "sensationalist conversion" of my title. Building on the foundation laid by Jacobi and Christensen, as well as more recent archival work by Nancy Diguerher (2014; Bouissou 2018), I propose to revisit and in some respects to qualify Christensen's assessment. My presentation will move between archival sources and broader intellectual history in order to emphasize (1) that the specific psychological theory in play is more properly Condillac's than Locke's; and (2) that this effort of "psychologizing" Rameau's theory is an innovation essentially due to the *philosophes*.

Bouissou, Sylvie. 2018. *Jean-Philippe Rameau.* Paris: Fayard.
Christensen, Thomas. 1993. *Rameau and Musical Thought in the Enlightenment*. Cambridge: Cambridge University Press.
_____. 1994. "Diderot, Rameau and Resonating Strings: New Evidence of an Early Collaboration." *Studies on Voltaire and the Eighteenth Century* 323: 131–66.
Cohen, Albert. 1981. *Music in the French Royal Academy of Sciences: A Study in the Evolution of Musical Thought.* Princeton: Princeton University Press.
Diguerher, Nancy. *Rameau, du cas à la singularité.* 3 vols. Saarbrücken: Presses académiques francophones, 2014.
_____. "La *Démonstration du principe de l'harmonie* face à ses *Mémoires* (1749–1750): Enjeux nouveaux d'une démonstration, entre mise en pièces et mise en scène." In *Rameau, entre art et science.* Edited by Sylvie Bouissou, Graham Sadler, and Solveig Serre, 381–94. Paris: École des chartes, 2014.
Jacobi, Erwin. 1967–1972. Introduction to the *Démonstration du principe de l'harmonie*. In Jean-Philippe Rameau, *Complete Theoretical Writings*. 5 vols. Edited by Erwin R. Jacobi, 3:xxxi–l. Rome: American Academy of Musicology.

Alexander Rehding.

Chladni's Sound Figures and the Instruments of Music Theory.

Ernst Chladni, famously, succeeded in making sounds visible. His *Entdeckungen über die Natur des Klanges* (1787), which described the arrestingly beautiful sound figures, that fascinated experts and laypeople alike, and in this way changed the way we think about sound. Chladni went on to develop several original instruments, including the Euphon and the Clavicylinder, which he used as demonstration objects in his touring public lectures, through which he earned a living.

"Music-theoretical instruments," located halfway between musical and scientific apparatus, have been defined as noisemakers that, in producing sounds, also generate knowledge about music. It is clear that Chladni's musico-scientific breakthrough fulfills this definition, but it is

much less clear how exactly – and through what instrumentarium – this is achieved. Part of the problem is, on the one hand, Chladni's romantic approach to science, which seeks to display nature's magic without analyzing it, and on the other, Chladni's secrecy in how his instruments actually work. (Remember he made a living from his lecture-demonstrations and was paranoid someone would steal his secrets.)
Myles Jackson has drawn attention to Chladni's innovative musical instruments, and shows ingeniously how they relate to his scientific theories. In this case, however, the situation is more complicated – precisely because the Clavicylinder and Euphon were not part of Chladni's explicit theorizing. In the end, all the components of Chladni's work need to be put together to arrive at a fuller picture.

Philippe Sarrasin Robichaud.

Des recherches exactes et curieuses. The critical historiography of music in Pierre-Jean Burette's edition of Pseudo-Plutarch's *De Musica*

Although now primarily remembered as a footnote to Rousseau, Pierre-Jean Burette (1665-1747) was, in fact, the most influential figure in shaping the French Enlightenment's understanding of ancient Greek music. A skilled musician, a dedicated physician, Burette was also a prolific Hellenist scholar at the Académie des Inscriptions et Belles-Lettres. This talk will examine his rigorous approach to the translation, the edition and the extensive commentary of Pseudo-Plutarch's *De Musica* (Περὶ Μουσικῆς)*, as it remains crucial to our understanding of the historiography of music in the first half of the 18th century. Indeed, between Jacques Amyot's humanist translation and Rousseau romantic interpretation of the text, Burette's meticulous annotations aimed to elucidate every reference and textual variant to a point where he deemed his paratext capable of forming a "complete history of Greek music". This might seem particularly striking, given the numerous flaws that the philological tradition has gradually identified in Pseudo-Plutarch's *De Musica*, from the negligence of its style to the inauthenticity of its author; from the imperfection of its structure to the almost exclusively compilatory nature of its composition. However, we argue that it is precisely the incomplete and fragmented nature of the text along with its incorrect attribution that provides the heuristic framework for Burette's both *exact* and *curious* inquiry. Moreover, his use of the metaphor of the "body" and of "dissection" to illustrate his reconstruction of the historical and conceptual universe of ancient Greek music sheds light on singular "anatomist's" (Mandressi, 2003) epistemological gaze in which his study is grounded.

* Burette, Pierre-Jean. « Examen du traité de Plutarque sur la musique [20th of April 1728] », p. 27-44 ; « Observations touchant l'histoire littéraire du dialogue de Plutarque sur la musique [3rd of May 1729] », p. 44-62 *; « Analyse du dialogue de Plutarque sur la musique* [3rd of March 1730] », p. 80-96, in *Mémoires de litterature, tirez des registres de l'Académie royale des inscriptions et belles lettres. Depuis l'année M. DCCXXVI jusques & compris l'année M. DCCXXX,* t. VIII, Paris, Imprimerie Royale, 1733 ; « Dialogue de Plutarque sur la musique : traduit en françois avec des remarques [read in three sessions: February 1st 1723, July 1st 1724, and July 13th 1725; also published separately in 1735] », p. 111-180; « Remarques sur le dialogue de Plutarque touchant la musique [August 18th 1730] », p. 180-310, in *Mémoires de littérature […] depuis l'année M. DCCXXXI jusques & compris l'année M. DCCXXXIII*, t. X, Paris, Imprimerie Royale, 1736 ; « Suite des remarques sur le dialogue de Plutarque », in *Mémoires de litterature, […] depuis l'année M. DCCXXXIV jusques & compris l'année M. DCCXXXVII*, t. XIII, 1740, p.173-316; *depuis l'année M. DCCXXXVIII jusques & compris l'année M. DCCXL*, t. XV, 1743, p. 293-394; *depuis l'année M. DCCXLI jusques & compris l'année M. DCCLIII,* t. XVII, 1751, p. 31-60 ; « Dissertation servant d'épilogue et de conclusion aux remarques sur le traité de Plutarque touchant la musique, dans laquelle on compare la théorie de l'ancienne musique avec celle de la musique moderne [July 13th

1742 and July 28th 1743] », p. 61-106, in *Mémoires de litterature, […] depuis l'année M. DCCXLI jusques & compris l'année M. DCCLIII*, t. XVII, 1751.

Maria Semi.

Coherence and knowledge making in music histories (1690-1801)

The appearance of works called "music histories" is a major event that takes place during the eighteenth century across Europe. The cultural distance between the first specimens of this new genre (i.e. the works of Printz, Bontempi, Bonnet-Bourdelot) and works from the second half of the eighteenth century (such as the works of Hawkins, Burney and Forkel) tells us a lot about how the relationship between knowledge and music was conceived at that time. By examining some of these works, I will try to argue that a major change occurred during the eighteenth century (and it did not concern only musical knowledge): history turned from being a repository of knowledge to a sort of genealogical research, looking for a way to explain how certain things became as they were as the result of specific historical processes. Coherence and selectivity became thus relevant elements of these histories. In his *Remarques sur l'histoire* (1742), Voltaire opposed two different ways of writing history: on the one hand historical forms conceived as transcriptions of memories that generate untruthful accounts, and on the other hand historical forms conceived as examinations through the use of reason of "choses neuves et varies". This distinction configures a *poétique du savoir* (Rancière) that is changing and in this paper I will try to single out some of its features relating to music histories.

Elena Serrano.

Music and the Physiology of Emotions at 18th-century Hispanic World

This paper explores the role of sound and music in the production of scientific knowledge about the physiology of passions. In particular, it investigates how the celebrated natural philosopher Benito J. Feijoo (1676–1764) explained the arousal of love through the vibrations of nerves.

One of the most influential writers in the Hispanic world, Feijoo sought to explain how the impressions of the external world captured by the senses could come to provoke internal passions and movements of the soul. My paper suggests that Feijoo's deep knowledge of the nature of sound, his observations and readings about music's influence on mood and health, and above all, the intense feelings that music aroused in him, influenced his view on the physiology of emotions. According to the historian Antonio Martín Moreno, Feijoo appealed "innumerable times" to music to explain his opinions. I would add that he recurred to music especially to conceive and explain the relationship between soul and flesh in a way that resonated deeply with his numerous readers. The paper will bring into dialogue works on music and related genres (such as musical treatises and compositions) that circulated widely in the Hispanic context with medical and philosophical treatises and practices of musical healing. My ultimate aim is to address the role of intersensory, affectional, and gender experiences in the production of knowledge.

Leendert van der Miesen.

A Natural History of Music?

"A Natural History of Music." In 1745 the naturalist Henry Baker used these words to describe the field of study that would investigate the effect of sound and musical harmonies on nonhuman animals to the Royal Society of London. Baker's remark was prompted by an experiment performed in Italy on a river eel that responded to the sound of the violoncello. This anecdote might be considered a peculiar tale of the curious nature of early modern scientific academies, in which members even found time to think about the effect of musical harmonies on river eels. Considered within the interest in animals and animal musicality across the eighteenth century, Baker's anecdote raises questions on how the influence of music on non-human animals was conceptualized, theorized, and experimentally tested. Was the animal mind conceptualized in relation to notions such as harmony and health? Was there a conception of animal musicality? And how was the effect of music on animals studied and described? Going over writings from the fields of music, natural history, and the study of the senses, this paper attempts to give a first answer to these questions, arguing that non-human animals were central to many eighteenth-century considerations of the cognitive and bodily powers of harmony.

Marie Sklowdoska-Curie Project n. 101029971