

Call for Papers:

The Living Forces Debate Accross Europe (1686?-1743?)

We are pleased to announce a call for papers for the upcoming **online** workshop, "**The Living Forces Debate across Europe (1644–1749)**," organized in collaboration with the **Center for the History of Women Philosophers and Scientists** and the **Istituto per la Storia del Pensiero Filosofico e Scientifico Moderno (ISPF-CNR)**, will be held on **June 11 and 12**.

The debate on living forces in early modern Europe was a pivotal intellectual conflict concerning the nature of motion, energy, and the fundamental principles governing the physical world. The conventional framing of the *living forces debate* situates its chronological boundaries between 1686, marked by the publication of Leibniz's *Brevis demonstratio*, and 1743, with the first edition of d'Alembert's *Traité de Dynamique*. However, this periodization warrants critical reconsideration, both on historical and theoretical grounds. Emerging in the late 17th and early 18th centuries, primarily revolving around the competing ideas of René Descartes, who advocated for the conservation of momentum (mass times velocity), and Gottfried Wilhelm Leibniz, who introduced the concept of vis viva (living force), proposing that the true measure of force was proportional to mass times the square of velocity.

Émilie Du Châtelet played a crucial role in this debate, providing a comprehensive synthesis of the competing theories, and articulating an original and influential defense of the vis viva principle. In her seminal work, *Institutions de Physique* (1740), she argued that the quantity conserved in nature was not simply the Cartesian momentum but rather what we now understand as kinetic energy. Du Châtelet's contributions were instrumental in clarifying and advancing the discussion, influencing the eventual development of classical mechanics. Her critical engagement with both Newton's *Principia Mathematica* and Leibniz's writings demonstrated her profound understanding of complex physical concepts and underscored the importance of empirical evidence and mathematical rigor in scientific discourse.

The major works central to this debate include Descartes' *Principia Philosophiae* (1644), Leibniz's essays on dynamics, particularly his *Brevis Demonstratio* (1686) and *Specimen Dynamicum* (1695), and Du Châtelet's *Institutions de Physique* (1740) and her discussion with Dortous de Mairan presents on the second edition in (1742) and influenceing Kant's early views on natural philosophy *Gedanken von der wahren Schätzung der lebendigen Kräfte* (1746–49).

These texts reflect the rich intellectual exchanges of the period, marking a significant evolution in the scientific understanding of motion and its causes. Beyond physics, the debate explored the nature of reality and the methodologies for understanding physical phenomena. It reflected broader shifts in scientific and philosophical thought having a major influence in the further developments on the natural sciences on the following centuries.

Topics of Interest Include:

- The conservation of physical variations in the universe
- The history of mechanics
- The development and evolution of dynamics
- The concept of force in early modern philosophy and science
- The relationship between ‘motion’ and ‘force’ in natural bodies

We welcome submissions that approach these topics from philosophical, historical and scientific perspectives, shedding light on both well-known and lesser-explored aspects of the debate.

Submission Guidelines: Please submit an abstract of **300-500 words** outlining your proposed paper, along with a brief **biographical note** (150 words). Submissions should be sent to pedro.prikladnitzky@uni-paderborn.de **or** stefano.veneroni@ispf.cnr.it by **20/04/2024**.

The presentations will have a duration of 30 minutes, followed by 15 minutes of discussion.

Accepted speakers will be notified by **May 10**.

Registration is required for attendance.