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ALISON SIMMONS

ROBERVAL, GILLES PERSONNE DE (1602–1675)

Roberval was born as Gilles Personne in the small village of Roberval near Senlis, France. His father was a poor farmer or farmworker, and his mother is said to have given birth to him in a field. At the age of fourteen, his intelligence recognized, Gilles

Personne was given instruction in **mathematics** and languages by a local priest. He later earned his living as an itinerant teacher of mathematics. After witnessing the siege of La Rochelle, he supplemented his mathematical **knowledge** through studies in fortification and ballistics. Arriving in Paris shortly afterward, in 1628, Roberval soon became a member of the circle around **Mersenne** and later of the Académie de Montmor. Around 1630 he was given permission to append “de Roberval” to his surname. In 1632 Roberval was appointed professor of philosophy at Collège de Maître Gervais in Paris, a small institution attached to the university, and he lived in austere rooms there until his death. He never married. Roberval competed successfully for the Ramus chair in mathematics at the Collège Royal and was appointed in 1634. Required by the statutes to submit to open competition every three years, he nonetheless kept this post until the end of his life.

Descartes and Roberval disliked each other intensely. Unimpressed by the **Geometry**, Roberval sent his critical comments to its author through their mutual friend Mersenne. Their animosity increased further when Roberval defended **Fermat’s** method of tangents against criticism from Descartes (AT II 104–14). From this point onward, the two men engaged in dispute on many questions from methods for determining centers of gravity to the nature of space and **body**. When Roberval published what was purportedly the Latin version of a newly found Arabic script of a lost work of Aristarchus, but was in fact his own affirmation of the Copernican hypothesis, Descartes poured ridicule on the book. In particular, he noted that the supposed properties of matter were inconsistent with a spherical universe (AT IV 402).

Little of Roberval’s work appeared in his lifetime. His *Traité de mécanique* was first published in Mersenne’s *Harmonie Universelle* (1636), while his cosmological work *Aristarchi Samii de mundi systemate ... liber singularis* appeared in 1644. Mersenne ensured the latter’s wider distribution by republishing it in his *Novarum observationum tomus III* (1647). The requirements of the Ramus chair evidently encouraged Roberval to hold back the publication of his mathematical discoveries, leading him to become embroiled in a series of disputes over priority in discovery after others had published first.

A close acquaintance and ally of **Hobbes** during his exile in Paris, Roberval made important contributions to the mathematical calculation of areas and volumes by means of his method of indivisibles. He was a pioneer in kinematic **geometry** and innovative thinker in **mechanics**, inventing what came to be known as the “Roberval balance.”

Roberval was a founding member of the Académie Royale des Sciences and one of its most active contributors during the early years. He died in Paris in October 1675, leaving his extensive mathematical papers to the Académie on the understanding that they be published posthumously.

See also Fermat, Pierre; *Geometry*; Hobbes, Thomas; Mathematics

FOR FURTHER READING

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PHILIP BEELEY

ROHAULT, JACQUES (1618–1672)

Born at Amiens, Rohault studied in the **Jesuit** college of his home city and then moved to Paris, where he became known as a professor of **mathematics**. He was the son-in-law of **Claude Clerselier**, the editor of Descartes' unpublished writings, and as a result of this connection became a lightning rod of the Cartesian movement in France. Besides hosting some of the most famous Parisian conferences of his time – “the Wednesday meetings” – Rohault got actively involved in the dissemination of **Cartesianism** by sending **Pierre-Sylvain Régis** to teach Descartes' **philosophy** in Toulouse. From the philosophical point of view, he presents his achievements as a combination of Aristotle's and Descartes' thought, to which he adds something new, namely an experimental methodology.

Rohault published only two books during his life: the *Traité de physique* (1671a) and the *Entretiens sur la philosophie* (1671b). While the first aims at providing a textbook on natural philosophy, the second represents his answer to the increased debates about **transubstantiation** in France during the 1660s. More metaphysical in character, the *Entretiens* represents Rohault's contribution to the debate over forms and accidents. Relying on a Cartesian theory of matter, he appeals to Scholastic **explanation** in terms of matter, form, and privation. However, even if his taxonomy might look traditional, Rohault is very Cartesian in his explanation. He reduces the three Aristotelian principles of matter, form, and privation to simple properties of matter, something that is much better clarified by his *Traité* (see **form**, **substantial**).

More systematic in structure, the *Traité de physique* was a very influential book from its publication up to the middle of the eighteenth century, in France and elsewhere, including Louvain, Cambridge, and Utrecht. Quickly translated and published in Latin, this book was significant for the evolution of mechanical philosophy even in the context of the birth and development of Newtonianism. Moreover, in England, numerous editions of Rohault's treatise were accompanied by annotations from the celebrated Newtonian, Samuel Clarke. Varying in length and theme, Clarke's notes contribute to a range of debates in natural philosophy, by pointing out