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(b. Paris [?], France, ca. 1595 [?]; d. Paris [?]. ca. 22 December 1640)

*mathematics.*

In spite of the important role he played in the mathematics of the 1630's, what little is known or surmised about Beaugrand has had to be pieced together from sources dealing with his friends and enemies, and only rarely with him directly. There are few manuscripts or letters, and no records. He may have been the son of Jean Beaugrand, author of *La paecilographie* (1602) and *Escritures* (1604), who was chosen to teach calligraphy to [Louis XIII](#). He studied under Viète and became mathematician to Gaston of Orléans in 1630; in that year J. L. Vaulezard dedicated his *Cinq livres des zététiques de Fr. Viète* to Beaugrand, who had already achieved a certain notoriety from having published Viète's *In artem analyticam isagoge*, with scholia and a mathematical compendium, in 1631. Some of the scholia were incorporated in Schooten's edition of 1646.

Beaugrand was an early friend of Fermat<sup>1</sup> and Étienne Despagne (the son of a Jean Despagne); later of Mersenne and his circle; and for a time, before their bitter break, of Desargues. He seems to have been an official Paris correspondent to Fermat and was replaced in that function by Carcavi.<sup>2</sup> In 1634 he was one of the scientists who officially examined Morin's method for determining longitudes.<sup>3</sup> The following year he assumed the functions of *secrétaire du roi*, possible under Pierre Séguier, who was appointed chancellor in the same year.

Sometime before 1630 Beaugrand visited England;<sup>4</sup> he met Hobbes in Paris, at the home of Mersenne, in 1634 and 1637.<sup>5</sup> He spent a year in Italy, from February 1635, as part of Bellièvre's entourage.<sup>6</sup> While there, he visited Castelli in Rome,<sup>7</sup> Cavalieri in Bologna,<sup>8</sup> and Galileo in Arcetri,<sup>9</sup> and communicated to them some of Fermat's results in a conversation alluded to in his *Géostatique*. All of them, especially Cavalieri, appear to have been impressed with Beaugrand as a mathematician, and he continued to correspond with them after his return to Paris in February 1636.<sup>10</sup> He conveyed results of the French mathematicians without always bothering about provenance, a habit that resulted in misunderstandings.

Although Beaugrand's *Géostatique* (1636) was well received by Castelli and Cavalieri, it was a disappointment in France; and his violent polemical exchanges with Desargues, his anonymous pamphlets against Descartes, and the disdain that characterizes Descartes's references to him, as well as the cooling of his relations with Fermat, seem to stem from the period of its publication. Its main thesis is that the weight of a body varies as its distance from the center of gravity. Fermat<sup>11</sup> had adopted this law, and sought to demonstrate it in a satisfactory manner by arguing from a thought-experiment in which Archimedean arguments were applied to a lever with its fulcrum at the earth's center. Thus he defended a law of gravity later taken up independently by Saccheri in his *Neo-Statica* (1703).

Fermat's proposition gave rise to a long debate involving Étienne Pascal, Roberval, and Descartes.<sup>12</sup> Desargues appended a text inspired by this controversy to his *Brouillon projecl*. Beaugrand in turn claimed that the proposition which occupies most of the *Brouillon projecl* is nothing but a corollary to Apollonius, *Conics* 111, Prop. 17.<sup>13</sup> This attack was preserved by Desargues's enemies and occasioned Poncelet's rediscovery of Desargues's work 150 years later. Beaugrand's attacks on Descartes<sup>14</sup> took a similar form, including a charge of plagiarism from Harriot,<sup>15</sup> and are to be found in three anonymous pamphlets and a letter to Mersenne claiming that Viète's methods were superior and that Descartes had derived his *Géométrie* from them.<sup>16</sup>

## NOTES

*D. F.* and *M* below refer to the respective standard editions (see bibliography) of the correspondence of Descartes, Fermat, and Mersenne.

1.. *M.* V. 466 f.

2.. Cf. C. de Waard, in *Bulletin des sciences mathématiques*, 2nd ser., **17** (June 1918).

3.. Bigourdan, "La conférence des longitudes de 1634," in *Comptes rendus de l'Académie des sciences*, **163** (1916), 229–233.

4.. *M*, II 514.

- 5.. *D*, III, 342.
- 6.. *M*, V, 271.
- 7.. Paris, B.N., f. fr. 15913, 15914.
- 8.. *M*, V, 429. Cf. C. de Waard, in *Bollettino di bibliografia di storia delle scienze matematiche* (1919), 1–12.
- 9.. *M*, V, 454; Galileo, Edizione nazionale, XVI (1905), 335–337, 340–344.
- 10.. *Lettres de Chapelain*. Tamizey de Larroque. ed., I (1880), 109.
- 11.. *F*. V. 100–103.
- 12.. Cf. Descartes to Mersenne, 13 July 1638.
- 13.. R. Taton, *L'oeuvre mathématique de Desargues* (Paris. 1937), *passim*.
- 14.. P. Tannéry. *Oeuvres scientifiques*, V, 503–512; VI. 206 ff.
- 15.. *M*, VII, 201 f.
- 16.. *Ibid.*, 87–104.

## BIBLIOGRAPHY

References to Beaugrand are scattered throughout the standard eds. of the correspondence of Fermat (P. Tannéry and C. Henry, eds. [Paris, 1891–1912], *supp. vol.*, N. de Waard, ed. [Paris, 1922]), Descartes (Adam and P. Tannéry, eds. [Paris, 1897–1913]), and Mersenne (Paris, 1933–).

The extant writings by Beaugrand, besides his ed. of Viète's *In artem analyticam isagoge* (Paris, 1631) and Géostatique (Paris 1636), pub. in Latin as *Geostatica* (Paris, 1637), are a letter on tangents in Fermat's *Oeuvres*, *supp. vol.* (1922), pp. 102–113; a letter to Desargues, in R. Taton, *L'oeuvre mathématique de Desargues* (Paris, 1951), pp. 186–190; four writings against Descartes “Lettre de M. de Beaugrand (10 Aug. 1640),” in Descartes, *Oeuvres*, V, 503–512; letter to Mersenne (Apr. [?] 1638), in Descartes, *Correspondance* (1903); three anonymous pamphlets, in P. Tannéry. *Mémoires scientifiques*, VI (Paris, 1896), 202–229 (“La correspondance de Descartes dans les inédits du fonds Libri”); and Mersenne, *Harmonie universelle*, II. *Livre I des instrumens*, props, 14, 15, 31, and his *Correspondance* IV, 429–431.

See also Guy de Brosse, *Éclaircissement d'une partie des paralogismes...* (1637); P. Costable, “Centre de gravité et équivalence dynamique,” in *Les conférences du Palais de la Découverte*, ser. D, no. 34 (Paris, 1954); and P. Duhem, *Les origines de la statique* (Paris, 1906), pp. 178 ff. For the confused priority controversy over the cycloid, see Pascal, *Oeuvres*, L. Brunschvicg and E. Boutroux, eds., VIII (Paris, 1914, 181–223

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