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(*b*. Applethwaite, Westmorland, England, 6 August 1741; *d*. Kendal, Westmorland, 18 October 1793)

mathematics.

Wilson was educated at Kendal and at Peter-house, Cambridge, where in the mathematical tripos of 1761 he was senior wrangler. He was elected a fellow of Peterhouse in 1764 and a fellow of the Royal Society in 1782. As an undergraduate he attracted notice in the university by his defense of Waring, then Lucasian professor of mathematics, against adverse criticism of the latter's *Miscellanea analytica* (1762).

As a private tutor at Cambridge, Wilson had a high reputation; but after a short period of teaching, he was called to the bar in 1766 and acquired a considerable practice on the northern circuit. In 1786 he was raised to the bench of the Court of Common Pleas; later he served for a short time as one of the commissioners for the great seal, between the retirement of Lord Edward Thurlow from the office of lord chancellor and the appointment of Lord Loughborough.

Wilson's name is given to the theorem that if p is a prime number, then $1 + (p–1)!$ is divisible by p. The first published statement of the theorem was by Waring in his *Meditationes algebraicae* (1770), although manuscripts in the Hannover Library show that the result had been found by Leibniz. Waring ascribed the theorem to Wilson but did not prove it; the first published proof was given by Lagrange (1773), who provided a direct proof from which Fermat's theorem (1640), first proved by Euler in 1736, can be deduced: If p is a prime and a is not divisible by p, then $a^{p-1}–1$ is divisible by p. Lagrange also showed that Wilson's theorem can be deduced from Fermat's theorem, and that the converse of Wilson's theorem is true: if n divides $1+(n – 1)!$, then n is a prime.

In a series of letters exchanged between Sir Frederick Pollock and Augustus De Morgan, published by W. W. Rouse Ball, Pollack describod the mathematical work done at Cambridge in the first decade of the nineteenth century, and asserted that Wilson's theorem was a guess that neither he nor Waring could prove.

Wilson's result has been generalized to provide a series of theorems relating to the symmetric functions of the integers $1, 2, \ldots, p-1$, and in other ways. The history of the theorem and its generalizations is given in detail by L. E. Dickson.

BIBLIOGRAPHY

For Wilson's life, see *Dictionary of National Biography,* XXI, p. 578; and Atkinson, *Worthies of Westmor-land,* II(London, 1850); for personal details, Augustus De Morgan, *Budget of Paradoxes,* 2nd ed. (Chicago-London, 1915); W. W. Rouse Ball, *A History of the Study of Mathematics at Cambridge* (Cambridge, 1889).

For Wilson's theorem, see the following, listed chronologically: E. Waring, *Meditationes algebraicae* (Cambridge, 1770); J. L. Lagrange, in *Nouveaux mémoires de l' Académie de Berlin* (1773); and L. E. Dickson, *History of the Theory of Numbers,* I(repr. New York, 1934), ch. 3.

T. A. A. Broadbent