- 23 Walker MD, Alexander E, Hunt WE, *et al.* Evaluation of BCNU and/or radiotherapy in treatment of anaplastic gliomas. *J Neurosurg* 1987;24:686–91.
- 24 Winger MJ, MacDonald DR, Cairncross JG. Supratentorial anaplastic gliomas in adults: the prognostic importance of the extent of resection and prior low-grade glioma. *J Neurosurg* 1989;71:487–93.
- 25 MRC Brain Tumour Working Party. Prognostic factors for high-grade malignant glioma: development of a prognostic index. *J Neurooncol* 1990;9:47–55.
- 26 Scott GM, Gibberd FB. Epilepsy and other factors in the prognosis of gliomas. *Acta Neurol Scand* 1980;61:227–39.
- 27 Vecht CJ. Effect of age on treatment decisions in low-grade glioma. *J Neurol Neurosurg Psychiatry* 1993;56:1256–64.
- 28 Chamberlain MC, Murovic JA, Levin VA. Absence of contrast enhancement on CT brain scans of patients with supratentorial malignant gliomas. *Neurology* 1988;38:1371–4.

NEUROLOGICAL STAMP

Gregor Johann Mendel (1822–84)

The Austrian monk, Gregor Johann Mendel, discovered the basic laws of heredity and laid the foundation for the science of modern genetics. The importance of his work was not recognised until 1900, 12 years after Mendel's death and 34 years after its publication. His childhood experience of horticultural work as the son of a peasant farmer had given him an interest in the role of hybrids in evolution. Much of his work was performed on the edible pea, which he grew in the monastery garden. Between 1856 and 1863 he cultivated and tested at least 28 000 pea plants, carefully analysing pairs of contrasting traits (such as plant tallness, flower colour, seed shape, pod shape, and flower position on the stem) that appeared in different pea plant progeny. From his findings, Mendel concluded that each plant contributed a factor that determines a particular trait and that pairs of factors in the offspring do not give rise to an amalgamation of traits. These conclusions, in turn, led him to formulate his laws of segregation and the law of independent assortment of characters, which are now recognised as two of the fundamental laws of heredity.

He had entered the Augustine order of Brunn in 1843, where he was ordained in 1847, and he was a science student at the University of Vienna from 1851–53. Mendel reported his findings to the Brunn Society for natural science in 1865 and in the following year published experiments with plant hybrids.

He noted that various traits were inherited as separate units, each of which were inherited independently of the others. He suggested that each parent has pairs of units but only one unit from each pair contributed to the offspring. The units that Mendel described were later named genes. The word was coined in 1906 by the British biologist William Bateson.

Mendel had read a brief account of his research to the Brunn Natural History Society in 1865 and asked members to extend his methods to other species, but none did. In 1866 he published his work in the Society's *Verhandlungen*, a journal distributed to 134 scientific institutions and he also sent reprints of the paper to hybridisation

experts of the time. His article seemed to have no effect whatever on the biological thinking of the time in Brunn or elsewhere despite his publications reaching the major libraries of Europe and America. It was not until 1900 when his work was rediscovered by several plant breeders independently that its true value was realised. In 1900, three investigators, K E Correns of Germany, E Tshermak von Seysenegg of Austria, and Hugo de Vries of The Netherlands independently obtained results similar to Mendel's and after searching the scientific literature, located his original reports. Fame only came to him after his death.

Mendel became Abbot of a monastery in 1868 and with its host of administrative duties found less time to devote to his research. By 1870 he had ceased his experiments on heredity. He was honoured philatelically on several occasions. Here he is shown on a stamp by the Vatican in 1984 (Stanley Gibbons 807, Scott 732) on the centenary of his death from chronic glomerulonephritis. The illustration shows the inherited characteristics of yellow and green seeds. After his death his associates placed his well bound books in a monastery library and burnt everything else. Thus the original records of his work were lost except for two brief publications rediscovered in 1900.

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