- cular malformations in Olmsted County, Minnesota. *J Neurosurg* 1996;85:29–32.
- 36 Dawson RC, Tarr RW, Hecht ST, *et al.* Treatment of arteriovenous malformations of the brain with combined embolization and stereotactic radiosurgery: results after 1 and 2 years. *AJNR Am J Neuroradiol* 1991;11:857–64.
 - 37 Friedman WA, Bova FJ, Mendenhall WM. Linear accelerator radiosurgery for arteriovenous malformations: the relationship of size to outcome. *J Neurosurg* 1995;82:180–9.
 - 38 Ondra SL, Troupp, George ED, *et al.* The natural course of symptomatic arteriovenous malformations of the brain: a 24-year follow-up assessment. *J Neurosurg* 1990;73:387–91.
 - 39 Pollock BE, Lunsford DL, Kondziolka D, *et al.* Patient outcomes after stereotactic radiosurgery for “operable” arteriovenous malformations. *Neurosurgery* 1994;35:1–8.
 - 40 Sisti MB, Kader A, Stein BM. Microsurgery for 67 intracranial arteriovenous malformations less than 3 cm in diameter. *J Neurosurg* 1993;79:653–60.
 - 41 Friedman WA, Blatt DL, Bova FJ, *et al.* The risk of hemorrhage after radiosurgery for arteriovenous malformations. *J Neurosurg* 1996;84:912–9.
 - 42 Heros RC, Korosue K. Radiation treatment of cerebral arteriovenous malformations. *N Engl J Med* 1990;323:127–9.
 - 43 Kihlstrom L, Guo W-Y, Karlsson B, *et al.* Magnetic resonance imaging of obliterated arteriovenous malformations up to 23 years after radiosurgery. *J Neurosurg* 1997;86:589–93.
 - 44 Ogilvy CS. Radiation therapy for arteriovenous malformations: a review. *Neurosurgery* 1990;26:725–35.
 - 45 Schwartz M, O'Brien P, Davey P, *et al.* Current status of radiosurgery for arteriovenous malformations. *Can J Neurol Sci* 1991;18:499–502.
 - 46 Yamamoto M, Jimbo M, Hara M, *et al.* Gamma knife radiosurgery for arteriovenous malformations: long term follow up results focusing on complications occurring more than 5 years after irradiation. *Neurosurgery* 1996;38:906–14.
 - 47 Lawton MT, Hamilton MG, Spetzler RF. Multimodality treatment of deep arteriovenous malformations: thalamus, basal ganglia, and brainstem. *Neurosurgery* 1995;37:29–36.
 - 48 Kondziolka D, McLaughlin MR, Kestle JRW. Simple risk predictions for arteriovenous malformation hemorrhage. *Neurosurgery* 1995;37:851–5.
 - 49 Mathis JA, Barr JD, Horton JA, *et al.* The efficacy of particulate embolization combined with stereotactic radiosurgery for treatment of large arteriovenous malformations of the brain. *AJNR Am J Neuroradiol* 1995; 16:299–306.

NEUROLOGICAL STAMP

Ivan Mikhailovich Sechenov (1829–1905)

Sechenov, son of a nobleman and a peasant, was born in the village of Teply Stan, now the village of Sechenovo, Gorky Oblast, on 1 August 1929. He graduated from the Main Engineering School in St Petersburg in 1848 and the medical faculty of Moscow University in 1856. From his teacher's Sechenov received the best instruction that Russia could offer in basic and clinical sciences. Pavlov referred to him as the Father of Russian physiology and scientific psychology.

Sechenov found most medical men to be empiricists and was disappointed by them. After graduation from the University of Moscow School of Medicine he studied abroad with J Müller, E DuBois-Reymond, and E Hoppe-Sayler in Berlin, O Funke in Leipzig, K Ludwig in Vienna, and H Helmholtz in Heidelberg. Much of his early work was done in Claude Bernard's laboratory. While abroad Sechenov prepared his doctoral dissertation, *Data for the Future Physiology of Alcoholic Intoxication*. His interest in neuropathology and physiology of the higher centres grew from his circle of associates. On his return to Russia he was made Adjunct Professor of Physiology in the Military Medical Academy. He left this position as a sign of protest against the Academy's failure to confirm Metchnikoff as Professor. Sechenov later became Professor of Physiology in the Universities of Odessa, St Petersburg, and Moscow. His physiology laboratory was the centre not only for physiology but also for pharmacology, toxicology, and clinical medicine.

His chief scientific works, which appeared in the 1860s, were devoted to the examination of respiration, and to the discovery of the inhibitory centres of the spinal reflexes in the medulla and cord. During experiments conducted on a frog in 1862, Sechenov noted that the reflex of the spinal cord (bending of the legs when a frog is immersed in a weak acid solution) was depressed on chemical or electrical stimulation of the thalamic region. The thalamic reflex inhibition centre was named Sechenov's centre (Sechenov's centre) and the phenomenon of central inhibition was named Sechenov's inhibition. His book *Reflexes of the Brain* (1863) achieved outstanding success. In this book he explained in physiological terms the psychological activities of humans and explained the entire behaviour of the human as being a complicated reflex act. His outline of conditioned reflexes later was expanded by his successor I

F Cyon. Cyon was in turn the teacher of Pavlov. Sechenov's protégé, Elie Metchnikoff, won the Nobel Prize in Medicine and Physiology in 1908. His wife Maria Alexandrovna Bulova became the first woman physician in Russia. He was honoured philatelically on 15 June 1956 on the foundation of the Institute of Development in Biochemical Physiology of the USSR Academy of Sciences. The portrait displayed was Sechenov at the age of 59 and was from an oil painting by Elias Yefimovich Repin (1840–1930), Professor of Painting at the St Petersburg Academy (Stanley Gibbons 611, Scott 1826).

L F HAAS