- 2 Anderson CS, Jamrozik KD, Burvill PW, Chakera TMH, Johnson GA, Stewart-Wynne EG. Determining the incidence of different subtypes of stroke: results of the Perth Community Stroke Study 1989–1991. *Med J Aust* 1993; 158:85–9.
- 3 Mohr JP, Nicholas FT, Tatemichi TK. Classification and diagnosis of stroke. *Int Angiol* 1984;3:431–9.
- 4 Bamford J, Sandercock P, Dennis M, Burn J, Warlow C. Classification and natural history of clinically identifiable subtypes of cerebral infarction. *Lancet* 1991;337:1521–6.
- 5 Anderson CS, Jamrozik KD, Burvill PW, Chakera TMH, Johnson GA, Stewart-Wynne EG. Ascertaining the true incidence of stroke: experience from the Perth Community Stroke Study 1989–1991. *Med J Aust* 1993; 158:80–4.
- 6 WHO MONICA Project principal investigators. The World Health Organisation MONICA Project (monitoring trends and determinants in cardiovascular disease)—a major international collaboration (prepared by H Tunstall-Pedoe). *J Clin Epidemiol* 1988;41:105–14.
- 7 Teasdale G, Murray G, Parker L, Jennet B. Adding up the Glasgow coma scale. *Acta Neurochir (Wein)* 1979; 28(suppl):13–6.
- 8 Demeurisse G, Demol O, Robaye E. Motor evaluation in vascular hemiplegia. *Eur Neurol* 1980;19:382–9.
- 9 Bamford J, Sandercock P, Warlow C, Slattery P. Interobserver agreement for the assessment of handicap in stroke patients. *Stroke* 1989;20:828.
- 10 Sandercock P, Allen C, Corston R, Harrison M, Warlow C. Clinical diagnosis of intracranial haemorrhage using Guy's Hospital score. *BMJ* 1985;291:1675–8.
- 11 Gardner MJ, Altman DG. Confidence intervals rather than P values: estimation rather than hypothesis testing. *BMJ* 1986;292:746–50.
- 12 SPSS for Windows V5.0.1. Chicago, Ill: SPSS Inc. 1992.
- 13 EGRET statistical package. Seattle: Statistics and Epidemiology Research Corporation, Seattle. Washington, 1991.
- 14 Lindley RJ, Warlow CP, Wardlaw JM, Dennis MS, Slattery J, Sandercock PAG. Interobserver reliability of a clinical classification of acute cerebral infarction. *Stroke* 1993;24:1801–4.
- 15 Bogousslavsky J, Caplan LR. Vertebrobasilar occlusive disease: review of selected aspects. *Cerebrovascular Diseases* 1993;3:193–205.
- 16 Sandercock P, Molyneux A, Warlow C. Value of computed tomography on patients with stroke: Oxfordshire Community Stroke Project. *BMJ* 1985;290: 193–7.
- 17 Ebrahim S. *Clinical Epidemiology of Stroke*. Oxford: Oxford Medical Publications, Oxford University Press, 1990: 147–97.
- 18 Côté R, Battista RN, Wolfson C, Boucher J, Adam J. The Canadian Neurological Scale: validation and reliability assessment. *Neurology* 1989;39:638–43.
- 19 Brott T, Adams HP Jr, Olinger CP, et al. Measurements of acute cerebral infarction: a clinical examination scale. *Stroke* 1989;20:864–70.
- 20 Barer DH, Mitchell JRA. Predicting the outcome of acute stroke: do multivariate models help? *Q J Med* 1989;70: 27–39.
- 21 Gladman JRF, Harwood DMJ, Barer DH. Predicting the outcome of acute stroke: prospective evaluation of five multivariate models and comparison with simple methods. *J Neurol Neurosurg Psychiatry* 1992;55: 347–51.
- 22 Lyden PD, Lan GT. A critical appraisal of stroke evaluation and rating scales. *Stroke* 1991;22:1345–52.

NEUROLOGY IN LITERATURE

The pupil

Sir Thomas Browne's observations on the pupillary responses to light and shade befit his stature as a Fellow of the Royal College of Physicians. Both Victor Hugo and Thomas Hardy confuse the dark adaptation of the retina with the more rapid pupillary reaction to dark. It has been estimated that dark adaptation takes up to half an hour after a sudden transition from light to relative darkness. Thomas Mann's observations on Felix Krull are intriguing. The capacity for some people to dilate their pupils voluntarily is well recognised, but I have had difficulty finding any authority who believes in voluntary meiosis, other than that occurring as a result of convergence spasm. Duke-Elder gives one reference, in the German literature, to hysterical meiosis. Dickens' observations here, as almost always, are apposite. Whatever he found, Eugene Wrayburn's surgeon gave a gloomy prognosis, confirming, not for the first time, the fallability of the medical profession in predicting the outcome of head injury.

Sir Thomas Browne, 1658, The garden of Cyrus

And therefore in diffused and open aspects, men hollow their hand above their eye, and make an artificial brow, whereby they direct the dispersed rays of sight, and by this shade preserve a moderate light in the chamber of the eye; keeping the pupilla plump and fair, and not contracted or shrunk as in light and vagrant vision.

Victor Hugo, 1862, Les misérables

The pupil dilates in darkness and in the end finds light,

just as the soul dilates in misfortune and in the end finds God.

Charles Dickens, 1864–5, Our mutual friend

He appeared irresolute. He did not retain it, but laid it gently down, took a candle, looked more closely at the injuries on the head, and at the pupils of the eyes. That done, he replaced the candle and took the hand again.

Thomas Hardy, 1887, The woodlanders

For her eyes were fresh from the blaze, and here there was no street lamp or lantern to form a kindly transition between the inner glare and the outer dark . . . but the pupils of her young eyes soon expanded, and she could see well enough for her purpose.

Thomas Mann, 1954, Confessions of Felix Krull, confidence man

It is a well-known fact that the muscles controlling the pupils of our eyes react involuntarily to the intensity of the light falling upon them. I decided to bring this reaction under voluntary control. I would stand in front of my mirror, concentrating all my powers in a command to my pupils to contract or expand . . . but later I actually succeeded in contracting them to the merest points and then expanding them to great, round mirror-like pools.

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