

thick, fast and sweeping, couched in the adjectival prose used by that moiety of North America not addicted to compound nouns: "Medieval Europe was one of the most constipated, neurotic, and women-hating societies ever to exist . . . ruled by gouty, beef-eating men wearing dresses." Or how about: "The grandeur of Rome was the grandeur of a pig sty masquerading as a military brothel"? Well, yes. Such statements are as impossible to disprove as they are to prove. For all its colour, such language is devoid of meaning. So again we conclude that this is an excursion into the

realm of morality rather than knowledge. It is a peculiarly American activity, this construction of manichaeic universes balanced on conjecture and black boxes. Such holy simplicities are not for the cynical who can conceive of complexities having more than a unitary origin. But it is the simplicities of this book that provide both its moral force and intellectual weakness. □

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Metamorphosis

John C. Marshall

Pride and a Daily Marathon. By Jonathan Cole. Duckworth: 1991. Pp. 194. £14.99.

WHEN Gregor Samsa awoke one morning, he found himself unable to get out of bed; he could not control the movement of his limbs and, without vision, was even unsure of the position of his body: "When finally, in a kind of rage, he summoned all his strength and recklessly thrust himself forward he had mistaken the direction, striking the lower bedpost a violent blow, and the sharp pain he felt informed him that it was this lower part of his body that was perhaps the most sensitive at the moment." Kafka's man had metamorphosed into a giant insect.

The transformation that befell Ian Waterman in 1971 was scarcely less horrifying. As a perfectly normal young man of nineteen, a skilled butcher, he took a new job in the island of Jersey, in the English Channel. The boss, impressed by his speed, accuracy and dedication, was about to offer him a junior partnership in the business. Then fate struck. After what initially seemed no worse than a bout of gastric flu, Waterman, like Samsa, found that he was incapable of controlling his body. In *Pride and a Daily Marathon*, the sympathetic neurophysiologist who befriended and helped him documents Waterman's progress over the next 20 years.

I write 'helped' rather than 'treated' because Waterman's condition was totally intractable. He had suffered a neuropathy of the peripheral nervous system that deprived him of the ability to feel touch and of all proprioceptive and kinaesthetic sensation below the neck. Such information is coded by myelinated nerve fibres with a relatively large diameter and conduction velocity. It was these nerves that had been functionally destroyed by an inflammatory immune

reaction to an (unknown) infective agent.

Some sensations, mediated by smaller, slower, unmyelinated nerve fibres, remained: pain, temperature, deep pressure and muscle 'effort'. There was no disorder of the motor nerves; the ability to move *per se* was retained, with normal strength. But this skill is of limited utility if you do not know where your body is to begin with, which direction it is moving in, and where it has arrived at during the course of movement. Loss of the 'sixth sense' of limb position, static or dynamic, seemed to condemn Waterman to 'life' in a wheelchair with a body that was not his own and over which he had no control.

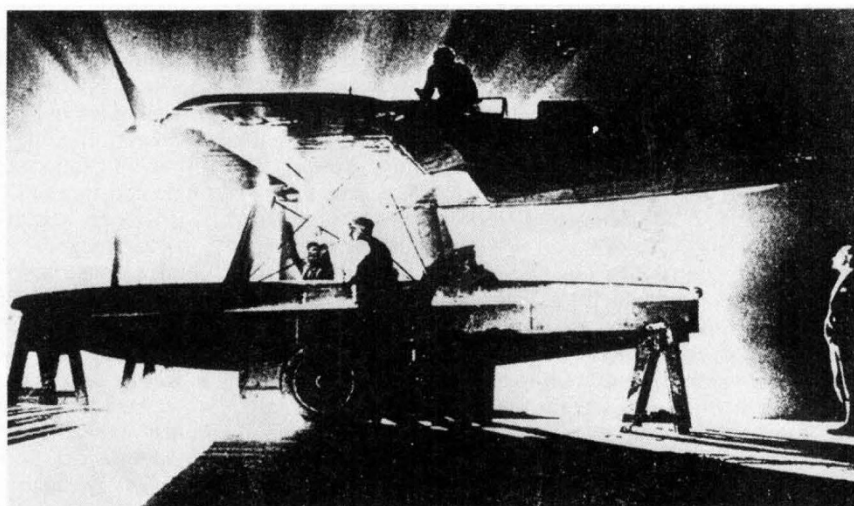
The story that Cole recounts is how Waterman, by sheer willpower, guts and persistence, learned to do almost everything that is normally achieved automatically by the inner senses. No physiological recovery has taken place, but Waterman now manages his body by visual feedback; he constantly monitors every movement by sight. What he can do in this fashion is nothing less than astound-

ing. To most intents and purposes Waterman leads a normal working life, although to call it 'normal' is something of an insult to the supernormal effort and concentration that he requires to do anything. For a man who can collapse in a heap on the floor if he sneezes (and hence loses, albeit momentarily, visual contact with himself), the description of life as "a daily marathon" is a gross understatement.

Cole's book (which is really coauthored by Waterman himself) is a model of popular science writing. An intimate biography of Waterman is interwoven with sufficient anatomical and physiological information for the general reader to understand the basic neurology of the peripheral nerves and their disorders. During his rehabilitation, some members of the medical and paramedical professions were very helpful, whereas others showed little understanding of his efforts. But, unlike the Samsa household, Waterman's friends and family were a tower of strength. (Connoisseurs of coincidence will note that Waterman's mother is called Felice.) Above all, the story is a tribute to what Waterman describes as his "pride, bloody pride". □

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■ Extending the tradition of writing about illness is *The Law of White Spaces* by Giorgio Pressburger, published last month by Granta. Part fact, part fiction, part autobiography, the book contains five beautifully crafted stories about doctors forced to confront "mysteries bigger than themselves". Price is £12.99. (To be published by Pantheon in this United States later this year.)



This aeroplane, designed by R. J. Mitchell (far right) at Supermarine, provides the clichéd image of English aviation, winning the world speed record in 1931 and being mistakenly portrayed as an early version of the Spitfire. In *England and the Aeroplane*, David Edgerton charts the history of English aviation, challenging current orthodoxy by arguing that England should be seen as a technological, industrial and militant nation. Published by Macmillan, £35 (hbk), £14.99 (pbk).