to write a different book from the one he set out to write. He has indeed taken our current notion of rationality for granted, without probing deep into its basis, and gives us an interesting survey of the violations of this norm. But he also aspires to go further: at the end of the book, he offers a list of the hindrances to rationality, which by implication seek out its roots. The list runs as follows: our evolutionary heritage, our neurological equipment, laziness, ignorance of statistics and self-serving behaviour. A curiously heterogeneous set of basic sins

Apart from lacking historical sense in broad outline, the author is exceedingly slapdash in handling specific facts. He likes to invoke examples of military folly, but tends to get it wrong. On page 41, the Light Brigade in the Crimea is described as charging Turkish (sic) guns and soldiers. Lord Raglan may indeed have been "doltish" but he could tell enemies from allies. Sutherland seems to have little sense of geography: if the Turks had indeed been the enemy, how on earth could the expedition have ever passed through the Dardanelles and reached the Black Sea? On page 144, General Montgomery is similarly derided for failing to take Antwerp in 1944, thereby enabling the German 23rd Army to escape from northern Holland (sic) and help defend Arnhem. The Germans had no need to escape from northern Holland (they stayed there, undisturbed, until the end of the war), and even less need of Antwerp to reach Arnhem from there, as Antwerp is nowhere near the way from north Holland to Arnhem. (Sutherland means northern Belgium.) Those soldiers may be fools but they do occasionally consult the map. The ends of each chapter of the book contains pithy advice on how to avoid folly. I commend one addition: when telling stories about the folly of others, check your own account for howlers.

All the same, this is a lively and readable book about modern follies, even if it fails to tackle the harder questions about the role of reason and unreason in human society and the human psyche.

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1993 review supplements

Nature's review supplements next year are Spring Books (15 April), Autumn Books (25 November) and New Journals (7 October). The latter will cover journals launched during or after June 1991 with at least four separate numbers issued by the end of April 1993.

La neige d'antan

Walter Gratzer

C. P. Snow and the Struggle of Modernity. By John de la Mothe. *University of Texas Press:* 1992. Pp. 288. \$35.

WHEN the first laboratories sprang up in Victorian Oxford, the wife of the Warden of All Souls observed with contempt: "The Warden could get up science in a fortnight if he wanted to". Seventy or so years later, so C. P. Snow tells us, the mathematician G. H. Hardy reflected: "It's rather odd, but when we hear about



Snow — poor spokesman for science.

'intellectuals' nowadays, it doesn't include people like me and J. J. Thomson and Rutherford". Snow's career as writer and magus was rooted in his indignation at such affronts to the first of his chosen callings. He vociferated it loudly and often: "Not to have read War and Peace and La Cousine Bette and La Chartreuse de Parme [in the original no doubt] is not to be educated, but so is not to have a glimmer of the Second Law of Thermodynamics." It was probably the intolerable reek of humbug that so got up the noses of F. R. Leavis and other literati of the day and whipped them into such passions of wrath.

I happened to be at Harvard when Snow, just then at the peak of his unaccountable fame, came to deliver the Godkin lectures (later published as Science and Government). His audience, mainly of students from Harvard and MIT, filled a theatre the size of a baseball stadium, and he basked in their adulation. Many had already sent off for his collected oeuvre, bound in imitation morocco with genuine 18-carat gold-leaf lettering. Here, plainly, was the stuff of future PhD theses.

But that was 30 years ago, and I had not supposed that anyone bothered too much with Snow any more: yet now John de la Mothe has dished up for us his densely written and minutely researched treatise, bearing on the dust flap beneath the portentous title the familiar image of Lord Snow of The Two Cul-

tures, turning on the world the morose gaze of a costive bulldog. "The discourse modernity is comprised of a cacophony of voices, the interpretation of which can only be described as a struggle." Thus de la Mothe, getting his book off to an unenticing start. More, "it should not be surprising that our aspiration to more precisely delineate the parameters of this struggle has become the paradigmatic idea of our age." Well include me out when it comes to delineating parameters. Fighting down an urgent desire to bolt for cover. I ploughed on through the waterlogged terrain, feeling dry ground underfoot only when de la Mothe began to concern himself with Snow's life and especially his erratic scientific career.

De la Mothe identifies Snow with the thrust towards social progress and intellectual liberation - modernity, as he calls it - and while by no means uncritical of his subject, he accepts him substantially at Snow's own valuation of himself as the Messiah of the scientific age, both in his didactic utterances (the Rede and the Godkin lectures) and in his novels. These of course are peopled almost exclusively by scientists and academics and political mandarins, who stalk the Corridors of Power, gravid with the authority of their creator's years as scientist, civil servant and (briefly) politician. Science and Government purports to be a documentary study of decisionmaking processes in government, but as Snow remarks of his main protagonists, the deplorable Frederick Lindemann (Lord Cherwell) and Henry Tizard, they made the novelist's fingers itch; and Snow scratched where it itched (which, it must be conceded, makes the story an entertaining read, just as the novels often are).

Snow claims for scientists unique access to a wordly wisdom that few would arrogate to themselves (let alone their colleagues). They have, he asserted, "the future in their bones", a faculty denied by implication to members of other professions. To my mind, he was a poor spokesman for our trade. As a novelist he was pretty good for a scientist, as a scientist better at least than most novelists and as a politician merely, by all accounts, a failure. Lewis Eliot, the narrator of the roman fleuve, Strangers and Brothers, though a lawyer, is Snow himself — supercompetent, knowing and superior, the reflection in Narcissus's mirror. What undoubtedly lends spice to the novels is that we can identify (for Snow made no attempt to conceal them) the models for the characters, and to a certain extent the events also touch on reality. The trouble is that for all the solemn air of authority in which his characters envelop themselves, their aspirations are for the most part essentially trivial (as in *The Masters*), just as Snow was himself an inveterate pothunter and seeker after life's baubles.

The most interesting of the novels remains The Search, for it describes. often with compelling immediacy, the people and episodes that directed the course of Snow's academic life. The hero, Arthur Miles — again Snow — is thwarted in his purpose to become director of a new biophysics institute by the untimely discovery of a fearful gaffe in the work that has made his name. Crushed by disappointment and humiliation, which his professional rivals do nothing to assuage, Miles rejects the advice of a friend to apply himself patiently to his métier and rebuild his reputation, and resolves instead to forsake science and seek fame as a Man of Affairs. What a piffling reason, J. B. S. Haldane commented, for giving up the privilege of a life in research — the mere frustration of a personal ambition! But Snow was first and last an arriviste, whose interest was not in the journey, only in the goal. His own research, of which de la Mothe gives an absorbing account, was an almost unbroken succession of boners, the consequence most often of intellectual delinquency or wanton carelessness. The climax came with the publication by Snow and Philip Bowden (Francis Getliffe in the Strangers and Brothers series) on the spectroscopic identification and supposed photochemical generation of vitamin A. Their claims were brutally anatomized by Ian Heilbron and R. A. Morton. In particular, and not for the first time, Snow had made a fool of himself by his ignorance of the literature; he was probably already too busy with his other ambitions to bother with reading journals.

The metamorphosis of Percy Snow (as he was known to his fellow-students, who found him such a pest, in the chemistry laboratories at Leicester) into Sir Charles and later Baron Snow, his rise to the status of sage to that unsettled decade, the sixties, and the curious growth of his literary reputation make an interesting moral tale that repays study. Snow went far on his catch-phrase, The Two Cultures, but the idea was not new: Waddington, Koestler, Bernal, Polanyi and many others had articulated the same concerns, as in an earlier generation had H. G. Wells, a better writer by far than Snow and an altogether deeper intellect. That grandee of the other culture, Max Beerbohm, spoke of Wells's prose as "cold rice-pudding, spilled on the pavements of Gower Street". Why, then alas for Snow.

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Imbalances of power

Lawrence Freedman

Closing Pandora's Box: Arms Races, Arms Control and the History of the Cold War. By Patrick Glynn. Basic Books: 1992. Pp. 445. \$30.

DURING the 1980s, US arms-control policy came under the increasing influence of a collection of neo-conservatives who were highly dubious about the whole exercise. Many of them, including Richard Perle in the Pentagon, had been

homicide squad. They were therefore somewhat surprised that the decade concluded with a spate of dramatic breakthroughs in arms control. The main reason for this was the collapse of Soviet inner strength and self-confidence, which led to an almost craven acceptance of whatever the Americans happened to be proposing at the time. This raised questions about the relationship between attempts to regulate armaments and the overall balance of power.

The old liberal hope was that by containing the arms race, not only would the danger of war by accident or miscalculation be reduced but so too would a major source of aggravation in political relations. By the 1980s one did not have



End of the road — the collapse of Soviet power can be traced to the cumulative inefficiencies of state socialism, as much as to any external pressures from the West.

previously associated with Senator Henry Jackson. They argued that their predecessors had paid far too much attention to 'negotiability' to the neglect of substance, so that deals had been applauded even when they were to the detriment of the West's security. By acting as if the details of the military balance did not matter, they had allowed the balance to tilt dangerously to the Soviet's advantage. Reflecting President Reagan's own views, they did not put a high premium on 'negotiability' when they did get around to negotiating.

Liberals thought that the prominent position of this group in arms-control posts in the Reagan administration was akin to putting Crippen in charge of the to be a conservative to appreciate the problems with this perspective. In practice, when relations were tense, armscontrol efforts tended to make matters worse, through, for example, arguments over compliance; when relations were improving, arms control at best reinforced the benign trend. Against the underlying liberal assumption that there was little other than mutual fear and suspicion driving the great powers to war was the unfortunate reality that the East-West confrontation was not simply an unfortunate misunderstanding but reflected real differences in ideology and interests.

The neo-conservatives took up this 'realist' position, but then turned it into NATURE · VOL 360 · 26 NOVEMBER 1992