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measured. In demonstrating this interaction between public and private activities, Geison goes to the heart of what makes science so powerful a means of generating not just experimental novelty, but also effective new technologies for ordering and controlling the world. But in making clear the extent to which even so great a scientist as Pasteur was tempted, on occasion, to conceal the truth about the methods he used, Geison also raises important questions about how the essential tension between public and private interests is to be managed.

Geison does not address these questions explicitly; he is content to let his readers draw their own conclusions from his analysis of the private dimensions of Pasteur's work. Nevertheless, his study has profound implications for how we should think about the place of science in contemporary society. Over the past forty years, the myth of disinterested science has lost much of its popular appeal. The public is now far more aware of the partisan nature of scientific research, and of the extent to which the interests of the organizations that support such research may diverge from the interests of other sections of society. At the same time, science has become an increasingly private activity; not only is more and more research conducted within private institutions, but even academic science is now being diverted towards the goal of private wealth creation. Consequently, there is a crying need for informed discussion about what sorts of social structures will best ensure that science continues to serve the interests of the public at large. Such discussion cannot be advanced by retailing bankrupt myths about scientific integrity and disinterest; rather, we need to develop and disseminate a proper awareness of the social processes on which a truly public science must be founded. Geison's incisive deconstruction of the Pasteurian myth, and his elucidation of the role of both public and private interests in securing Pasteur's success, takes us a considerable way towards fulfilling this aim.

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Richard H Ellis (ed.), *The case books of Dr. John Snow, Medical History*, Supplement No. 14, London, Wellcome Institute for the History of Medicine, 1994, pp. lvii, 633, £25.00, \$38.00 (0-85484-061-3).

This large volume presents a complete transcription of the three surviving case books kept between 1848 and 1858 by the English physician John Snow, known best for his epidemiological studies of cholera but also for his early proselytism for anaesthesia. Preserved at the Royal College of Physicians, these records become more readily accessible in this published edition. Richard Ellis's splendid introduction traces Snow's career and begins to display the historical yield his manuscripts afford. The edition is enhanced by indexes and a brief essay by M P Earles on mid-nineteenth-century prescribing conventions.

Snow's entries record visits in the order he made them, arranged, that is, as a daybook chronicle of his professional activity rather than as narratives of illness and treatment in individual patients. Notations about his general practice are terse, sometimes specifying a diagnosis and prescription but often little more than the patient's name. Much fuller are his accounts of administering anaesthesia, though these too range from a short sentence to several richly detailed paragraphs. The record of the first eighteen months of Snow's use of anaesthesia has been lost, but the extant journals powerfully open up the workaday medical and social realities of an active anaesthesiological practice spanning most of the decade after the 1846 introduction of anaesthesia.

The sheer diversity in Snow's practice is impressive. We encounter him administering chloroform (or sometimes amylene) for an extraordinary array of conditions, including excision of tumours, removal of bladder stones, amputations, childbirth, and especially extraction of teeth. We see him anaesthetizing patients ranging from 8 days to 87 years in age and from workhouse inmates to Queen Victoria. The variety of sites where Snow

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administered anaesthesia also was remarkable: in patients' houses or lodgings, the private consulting rooms of surgeons and dentists, the great London hospitals, fashionable West End hotels, and Buckingham Palace. Presented with this range in social space and social position, one wonders whether the expectations about differential need for anaesthesia according to the individual sufferer's place in class, ethnic, and gender hierarchies that Martin Pernick, in *A calculus of suffering* (1985), elegantly extracted from American case books, might be teased out of Snow's records.

Awaiting careful analysis are Snow's changing appraisals of anaesthesia and the expectations, choices, and experiences of patients. We hear of the tooth extraction under chloroform of a "working man" at St George's Hospital who, in Snow's words, "said that it hurt him nearly as much as if he had not had the stuff" (p. 70), while another patient treated at his Charing Cross lodgings reported "he did not remember anything of the operation, but dreamed that he had been sailing in the Mediterranean" (pp. 105–6). Some patients were desperately eager to be anaesthetized, while others resisted or refused. Generally, Snow seems to have administered anaesthesia at the request of the surgeon or dentist performing the operation, but in a few instances patients sought out Snow's aid in defiance of their own medical advisors. Such records offer a promising wedge into the history of pain.

What Snow did *not* record is difficult to gauge, though Ellis draws attention to some significant omissions. His conjecture that Snow inscribed entries at the end of each day makes sense, and emphasizes that this written record is the product of selective and—as evident slips make clear—sometimes unreliable memory. More than this, reports on several particularly important cases that Snow published appear nowhere in these case books. Other silences are equally perplexing. The very first daily entry includes a measurement of the specific gravity of a patient's urine, for example, yet only a few further reports appear in the hundreds of pages that follow. Were

instances of urinalysis rare, or was the test so unremarkable in Snow's practice that he saw no particular reason to make note of it? We have no way of telling, an inbuilt limitation of using case books as an historical source.

This volume issues an invitation to investigate further Snow's practice during the early years of anaesthesia. At the same time, it should remind us of the wider possibilities of private practice case books both as a source of information about behaviour at the bedside and as a vehicle for exploring one of the medical practices most neglected by historians, namely, the practice of record keeping.

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Roy Porter and Mikuláš Teich (eds), *Drugs and narcotics in history*, Cambridge University Press, 1995, pp. xi, 227, £30.00 (0–521–43163).

The history of drugs, as the contributors to this comparatively slim but handsomely-produced collection of essays remind us, is one of ambivalence, contradiction and uncertainty. To quote from the title of Ann Dally's essay, "anomalies and mysteries" abound. For every positive drug association there appears to be a negative. Hence, the very word "drug" evokes ideas of use and abuse, legal and illicit, pleasure and pain, cure and addiction, health and decay, social lubricant and begetter of anti-social behaviour. How could it be otherwise when it has been used to describe such disparate items as heroin, cocaine, patent medicines, antibiotics, tobacco, alcohol, coffee, and even chocolate? It is therefore no surprise to learn, from John Parascandola's fascinating lexicographical essay, that in the 1920s and 1930s American pharmacists campaigned strenuously against the tendency of the press to treat the word "drug" as a synonym for narcotic.

The ambiguities of drugs are well illustrated in the actions of governments driven, sometimes simultaneously, by the conflicting priorities of raising revenue, improving public