

## Spring Book Review

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The discovery of a treatment that has increased the prevalence of cancer in the world does not, at face value, look like a towering success. Yet the team responsible for the drug Gleevec (imatinib mesylate) boasts of precisely this achievement. Chronic myeloid leukaemia (CML) remains a rare disease of low incidence, but, since the turn of the millennium and the introduction of an effective, targeted chemotherapy agent, average survival has leaped from three to thirty years. CML has been transformed from a dismal diagnosis into “an indolent leukaemia with an excellent prognosis”. As a result, the prevalence of CML keeps growing - there are ever more patients living with the disease, uncured but successfully treated. Mukherjee is an academic oncologist, and his book is a survey of the history of cancer. The scope is daunting - the multiple histories of the multiple diseases classified as cancer are woven of strands from biology, politics and culture. Performing the feat in fewer than five hundred pages is not the least of his achievements. The biological strand is a story of progress, of hard-won understanding. Mukherjee leads us through the incremental revelations of cancer biology, down to the level of the genetic control mechanisms of the cell. Military imagery is often used to describe assaults on cancer. Thus, we see generations of scientists, surgeons and physicians fighting their battles against the protean forces of deranged mitosis. Given that, until very recently, even the biology of normal mitosis was a mystery, the examples of stumbling and ignorant clashing are legion. This epic is on-going, of course, but the maps are constantly improving and the enemy is better and better understood.

The story so far has the formal structure of a thriller, and Mukherjee is skilled at manipulating suspense. He understands the key point of the unfolding drama - it is the human commitment that matters. Mukherjee's criterion was that any research fit for inclusion in the book must have had a measurable

impact on human lives. His own scientific and cultural background means that the book is oncology-focused and United States-centric, but there is enough key information on cancer surgery, radiology, statistics and public health to keep the lay reader well informed on the broader picture. The growth of interdisciplinary collaboration has been one of the great successes of oncology, and Mukherjee is quick to extend respect to all the key players, not just the zappers and poisoners. The role of politics in the story is fascinating, as the biographical studies of Sidney Farber and Mary Lasker show. All research requires nous, patience and determination, and most needs a steady source of income. Farber, prime mover in chemotherapy research in the 1950s, needed influence to advance his campaign of assaults on cancer. Lasker was a well-connected socialite, resourceful and sagacious, and she became the leading recruiter of political backing for what became known as the War against Cancer. Serious advances in the understanding of cancer, went the argument, needed serious amounts of money. What the critics of such programmatic science were sceptical about, was the suitability of cancer research for such a splurge of resources. Building an atom bomb and landing a man on the moon provided the analogies politicians could understand, but the fear was that the outcomes of a disparate set of cancer research targets would not provide such billboard successes. Losing battles means losing face, and James Watson, discoverer of the structure of DNA, was a particularly vocal opponent, arguing in 1977 that “we shall so poison the atmosphere of the first act that no one of decency shall want to see the play through to the end”. Cancer permeates - it is a potent source of metaphor and myth. Maintaining public sympathies with the oncological agenda was seen as crucial. With the lobbying power of, for example, the tobacco industry keen to inflict reputational damage, the stakes could not have been higher. An echo of these tensions

is seen in the on-going War on Terror, another mammoth American political endeavour that drew on the experiences from the war on cancer in its use of rhetoric. The interface between science, ethics and politics is at the heart of this book, and Mukherjee proves a masterful guide. Mukherjee made the decision to analyse his own clinical experiences, describing some of his own encounters with patients with dire prognoses and rare fortitude. These interludes illuminate the narrative. He describes the intellectual focus of Henry Kaplan, *eminence grise* of Hodgkin's lymphoma oncology, "swivelling about through the malignant world". Mukherjee's own outlook is similarly wide-ranging, and his skills as an explicator are revelatory. The history of oncology is the history of inventive minds, creating coherent explanations from a patchwork of disparate observations: the surgeon who in the 1890s removed the ovaries from women with breast cancer and saw the tumours shrink; survivors of mustard gas attacks in the First World War whose haematopoietic function was obliterated; the first leukaemic children responding to Farber's antifolate treatments with "flickering" remissions; the results of the first trials of Herceptin. This book is a constant source of astonishment, both at its content and its style, and deserves all manner of praise.