

Reflections on AIDS denialism in South Africa

The Virus, Vitamins and Vegetables. The South African HIV/AIDS Mystery. Kerry Cullinan and Anso Thom (eds). Pp. 232. Jacana, Cape Town, R169.95. ISBN 978-1-770009-691-2. 2009

On the internet site, www.health-e.org.za, of which the editors of this volume are also editors, this volume is described as a 'cautionary tale'. The message the book offers is 'Let this never happen again'. The 13 articles that comprise the book describe a bizarre world and it is still difficult to believe that the optimistic years of early post-apartheid South Africa could have promoted such madness. The articles trace the ramifications of AIDS denialism, from the development of Virodene, through the appointment of Manto Tshabalala-Msimang as health minister, to the gathering of quacks and AIDS dissidents around the presidency. Alongside this account are the struggles of brave and often lonely fighters to bring antiretrovirals to the victims of the disease. This is a deeply disturbing book, for the ramifications of the events go far beyond the management of HIV/AIDS in this country.

At the centre of the story, of course, is the former State President, Thabo Mbeki, who still remains something of an enigma. His distaste for the depiction

of Africans as contaminating rapists is understandable and one clue to his persistent support for an African solution to AIDS can be found when Virodene was presented to the cabinet. 'It was like a church confessional' Jakes Gerwel told a reporter. 'The thing I will always remember is the pride in South African scientists' (pp. 3–4). What is less forgivable is the abuse of power that followed, with the subsequent loss of hundreds of thousands of lives.

One aspect of this abuse of power was the patronage that the health ministry offered to a host of dubious people seeking to promote their own viewpoints and remedies. By no means all of these were South Africans. The German Matthias Rath and the Hollander Tine van der Maas found places on this bandwagon. Weirdest of all in some respects, however, is the South African, Anthony Brink, whose website is still readily accessible. The use of patronage bears an unhappy resemblance to the collection of opportunists who so often gather around dictatorships or illegitimate forms of govern-

ment. It is not a healthy sign of democracy.

More disturbing still has been the treatment of decent people with the interests of the country at heart. The chapter dealing with Thys van Mollendorff at the Rob Ferreira hospital in Mpumalanga describes a disgraceful situation, in which the trade union Nehawu participated in the persecution of a man striving to bring help to their own people. It is not made entirely clear who orchestrated the harassment, although the Mpumalanga Department of Health was undoubtedly involved. Such callousness and the irrationality eats away at the heart of the new democratic state.

There is one problem with this volume. Though this is a story about evidence, and the lack of it, the book does not include the usual means of checking the authors' assertions. Since it is mainly written by journalists, one would not expect footnotes, and some of the information can be followed up in newspaper and websites, but there is no bibliography and no list of references. Above all, and, irritatingly, there is no index. That would have been helpful.

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How Many Things by Season Season'd Are

Seasons of Life: The biological rhythms that living things need to thrive and survive. By Russell G. Foster and Leonard Kreitzman. Pp. 303. Profile Books, London. R237.56. ISBN 978-1-86197-918-4. 2009.

People born between June and September in the southern hemisphere are more likely to suffer from schizophrenia than those born in other months; a quarter of the entire genome of *Arabidopsis thaliana* (a cress plant) is devoted to sensing and responding to environmental changes; and human basal metabolic rate drops to 40% of normal values during starvation. These are some of the many remarkable facts that I learned while reading this book, which successfully unites wide-ranging discussions of plant phenology, animal behaviour and evolutionary physiology; the seasonality of human disorders as diverse as malaria and seasonal affective disorder; and the timing of crime and of human reproductive rhythms—all in the context of climate change. This is the second book by the neurobiologist/science writer team that produced a well-received description of circadian rhythms,

Rhythms of Life, in 2004. *Seasons of Life* takes a wider perspective, addressing organisms' anticipation of and responses to the environmental changes that follow seasonal rather than daily rhythms. Many biologists will share the authors' concluding wish for a better understanding of biological rhythms, in the hope that this might improve our chances of slowing down the accelerating extinction rate resulting from climate change.

The opening chapter summarises why the earth has seasonal weather: the angle of its axis; the shape of its orbit around the sun; and the physics of heat flow through its atmosphere and oceans. Then, after introducing some ecological case studies of evolutionary adaptation to seasonal changes, Foster and Kreitzman give us detailed descriptions of the key signalling and transcription pathways underlying seasonal rhythms in both plants and

animals. These rhythms are based on intrinsic physiological clocks that are fine-tuned by environmental cues: light periodicity and intensity, and also temperature. The clocks' mechanisms and the histories of their discovery are fascinating. Russell Foster's own research was central to the understanding of non-retinal light receptors in vertebrates, and his account of these clocks is masterful, if sometimes difficult to follow. His interest in light as a stimulus probably led to the book's emphasis on this, and to the neglect of environmental cues such as water availability, which is probably important in dry environments. More accessible than the descriptions of cellular and physiological function are the multifaceted and wide-ranging discussions in the second half of the book about seasonal patterns in humans, who originated in the tropics but whose range has now expanded to include all latitudes.

The influence of the pharmaceutical industry on medical science is illustrated by the recent history of medical research into and treatment of seasonal affective disorder—the depression and loss of