

BOOK REVIEW

That High Design of Purest Gold: A Critical History of the Pharmaceutical Industry Graham Dutfield (2020) 510pp., £60 paperback, World Scientific, Hackensack NJ, ISBN 978-981-124-992-1

Drug production as ‘industry’ becomes practical only with the era of mass manufacture, so this history is relatively short, perhaps 150 years. Dutfield covers it in detail, with an engaging narrative flow, and with specific important cases and examples highlighted. To a great extent, the history of the pharma industry complements and runs parallel to modern medicine, with the rapid development and deployment of scientific research methods, mainly beginning in the mid-nineteenth century. Florence Nightingale’s systematic visualization of the casualty and sickness data in 1850s Crimea is an early example of science applied to medical research. It is true that medicine and medical practitioners can be traced back thousands of years but, as Dutfield explains, the early model of treatment (shown by such texts as *The Housekeepers Guide* in 1835) was one in which each person was perceived to have a unique sickness and an individual treatment for it. Discoveries about disease transmission and prevention, by Pasteur and others, led to the realization that diseases could be identified, and treatments developed, independently of any prospective patient. This opened the way for drug development and production on a grand scale, ideally suited to the industrial factory methods that had begun to flourish (with pottery and fabrics) in the late eighteenth century. The fabric revolution required research into dyes, which in turn led to the growth of research in chemistry and a chemicals industry. This coincided with the flourishing of the limited liability corporation in the nineteenth century and the opportunities for capital investment and corporate growth this presented. Limited liability is, as the *Economist* (1999) puts it, ‘The key to industrial capitalism’. Removal of risk and uncertainty for the investor was a crucial element in industrial and technological revolutions. The scale of investment required to mass-produce and market products is far beyond the capability of the individual or the small firm.

Dutfield also provides a valuable and – it has to be said – technical discussion of the relationship between human health and genetics. The ‘critical’ aspect of the book’s subtitle comes to the fore as he examines the complexity, for companies and the courts, of the ownership of ideas and inventions that often rely on publicly funded discoveries and gene mapping projects too expensive and too risky for even large corporations. Chapters 9 and 10 contain the most substantial part of the book’s message. In these, he provides a good account of the corporate exploitation of patents, trademarks and marketing by extending the 20-year patent term by the finest of incremental chemical changes, or by discovering new applications for an existing drug. The incidental discovery that drugs to reduce the prostate also help to prevent male hair loss is just one example. The ability to acquire and extend legal protection for drugs in this way is, of course, one effect of the US 1952 Patent Act – virtually written for the pharmaceutical industry – which changed the rules about novelty in favour of new drug development and new applications of existing ones.

Dutfield’s discussion of the exploitation of trademark protection is also important. Long after the patent on paracetamol has expired GSK’s Panadol brand continues to have high commercial value. The presence of Panadol on the supermarket shelf enables Pfizer to sell its generic Paracetamol (with a similar dark blue box) for almost the same price as GSK’s Panadol. As a side note, we should observe that trademarks are being similarly exploited in the world of copyright. Whereas a book enters the public domain 70 years after the author’s death and may be freely reprinted and distributed, any author hoping to reuse any named element from a popular book is

now certain to be prevented by trademark registration, which lasts indefinitely. ‘Harry Potter’ as a brand has immense commercial value that far exceeds and extends the value of book sales.

Finally, Dutfield sets out the four questions which society must address in order to ensure that the pharmaceutical industry operates most efficiently for our greater benefit. His first concern is the balance between private and public investment in research, and the commensurate rewards to each. The industry tends to downplay the role of public research, but Dutfield points to research which demonstrates the crucial contribution of universities and nonprofits. The industry is able to do this because, at the point when society gave its munificent gift of limited liability to the corporation, no *quid pro quo* was demanded in the interests of the public. On the plus side, society gained the positive benefit of corporate capability to mass-produce and distribute life-saving drugs on a scale previously unimagined, while investors were free to pocket the profits of the firm at greatly reduced risk. The downsides gradually became apparent. The corporate machine has used its immense financial, lobbying and legal capabilities to avoid transparency about beneficiaries through trusts, avoid income tax through a million subterfuges, elect friendly politicians, exploit the research of publicly funded nonprofits, control the message of the mass media and promote laws that further expand the power of corporate interests.

Dutfield’s second point is that corporations tend to favour shareholders’ interests by going for low-hanging fruit: lifestyle drugs and drugs for the most profitable and common ailments. Society’s slowness in establishing *quid pro quo* arrangements in the early days of corporate growth now make it difficult, if not impossible, to establish regulations that permit access to important drugs by poor economies and individuals. It is clear, as Dutfield observes, that there is a ‘serious misalignment between business strategy and the real needs of the global public’ (p.449). It should be obvious that issues affecting society’s distribution of money, the ownership of ideas as property and questions of access to life-saving or life-altering treatments extend well beyond the limits of any single industry, and engage the dialectic of our socio-political sphere. His excellent book makes this case supremely well. There should be multiple copies on the shelves of every university library.

Reference

Economist (1999) ‘Finance and economics: 1811: the key to industrial capitalism limited liability’, 31 December, pp.89–90.

Kevin Scally
School of Business, University College Cork, Ireland
k.scally@ucc.ie