Public Health in History

Virginia Berridge, Martin Gorsky, Alex Mold
Open UP, 2011, £22.99, 280 pp
ISBN 978 0 33524 264 1

I should start with a confession. The study of history was never my strong suit, as my secondary school teacher would attest to. Therefore it was with a certain amount of trepidation that I approached *Public Health in History*. However, I'm glad to say I needn't have had any concerns.

The aims and structure of the book are made clear in the introductory overview, which also contains a segment on understanding historical methodologies – particularly useful for the uninitiated. In a little over 200 pages, it takes the reader through the major events in public health development over the last 200 years. It achieves this in three sections: Section 1 analyses the progression of public health in the 19th century and the Section 3 looks at public health from 1900s onward.

The middle section focuses on sexual health, substance misuse and malaria as separate entities or case studies. This is a particular strength of the book as it gives the authors the opportunity to focus on each issue in greater depth, highlighting (what appears to be) horrifyingly archaic attitudes of bygone times. However, this is one of the main thrusts of the book: what may appear unpalatable now was considered the norm, or even far-sighted, not so long ago.

Written by the historical team at the London School of Hygiene and Tropical Medicine, the experience and passion for the subject matter is clear in the prose. Although the overview can err to the verbose ("history is central to the discipline of history"), the bulk of the text is articulate, concise and thought provoking. It pulls together the myriad of strands in which the discipline of public health has evolved in the face of major historical events, be they social, economic or political. It examines in detail how history has helped shape the perception of public health, and indeed public health policy, and how intricately the two are intertwined.

Public Health in History is one in a series of textbooks called 'Understanding Public Health', which is designed for self-directed learning. Each chapter contains key terms and learning objectives and is divided into segments, with frequent questions or self-assessments at each stage. This is an excellent feature of the book as it provides frequent reflection and holds the attention. In particular, the variety of questioning techniques (e.g. from straightforward inquisition, to data interpretation, to best match answer) works extremely well.

The text is clearly extensively researched and sourced from a rich variety of data sources, including tables, graphs, quotations and a range of interesting and entertaining illustrations.

I have no hesitation in recommending this highly informative and easy-to-read textbook. The prose is kept tight and it doesn't read as a traditional historical textbook, which will help entice 'non-students' to the subject.

It will be of great interest to a range of readers, from the casual observer to the more serious scholar. It is also a pertinent reminder to policy makers that learning from the past is of paramount importance for the laws of tomorrow.

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Diagnostic Techniques in Hematological Malignancies

Wendy N Erber (editor)
CUP, 2010, £75/$125, 336 pp
ISBN 9 780 52111 121 8

This excellent book, edited by Wendy Erber, fills an important gap. Professor Erber, a haematologist who was Head of the East of England Haemato-Oncology Diagnostic Service and a supervisor of haematology trainees, was motivated to write it as a result of "poorly focussed testing due to lack of knowledge in these areas". With increasing complexity of diagnostic tests available in the investigation and management of haematologic malignancies, there is a need for knowledge that enables optimal use of tests in individual diseases. This book addresses that need and more. With an increasing emphasis on an integrated approach to diagnosis of haematologic cancers, there is a pressing need for a book at the diagnostic bench that is informative about techniques, methods and diseases. This book does this admirably.

It is divided into two parts. The first deals with diagnostic techniques and the second with individual diseases. Written by experts in the field, the chapters provide information that is clinically very relevant, brilliantly illustrated and as up to date as possible. The chapters on molecular genetics and flow cytometry are particularly useful, dealing with the concepts, methods, interpretation and pitfalls – details that are likely to improve the quality of requesting and resulting (and performing in examinations) by haematologists.

I missed having a section dealing with interpretation of automated blood counts and the book does not deal with the more uncommon conditions, e.g. amyloid disease and Castleman's disease. These minor points apart, this book delivers an important part of the haematology curriculum. Buy it and get your department to buy it for the diagnostic bench as a companion to the WHO classification of haematologic malignancies.

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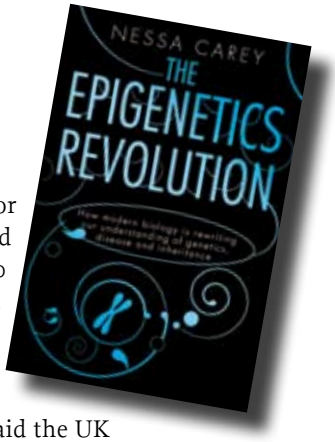
The Epigenetics Revolution

Nessa Carey
Icon Books, 2011, £17.99, 339 pp
ISBN 978 1 84831 292 0



In her introduction, the author describes the huge excitement and optimism caused on 26 June 2000 when researchers announced that the human genome had been sequenced. "We now have the possibility of achieving all we ever hoped for from medicine", said the UK Science Minister, Lord Sainsbury. The reason for this short-lived excitement is that we talk about DNA as if it is a template or a mould, but in reality it is more like a script. She describes how two different versions of *Romeo and Juliet* films have been produced based on Shakespeare's script.

Epigenetics is likely to be involved if two individuals are genetically identical but phenotypically variable, or an organism continues to be influenced by an event long after this initiating event has occurred. The two basic chemical processes in epigenetics are DNA methylation and histone modification.

Dr Carey gives some examples to demonstrate how epigenetics work. During the Dutch Hunger Winter, babies who suffered malnutrition during early pregnancy were more likely to develop obesity and other illnesses later in adult life.

The honey bees (*Apis mellifera*) live in a colony that has thousands of genetically identical individuals. The select few of these larvae who continued to be fed royal jelly would become queens. The majority who are fed nectar will become workers. Experimentally it was possible to conclude that continued feeding with royal jelly affects DNA methylation.

Epigenetic modifications control cell fate (liver cells stay as liver cells, brain cells stay as brain cells). Cancer represents a breakdown in normal control of cell fate and drugs that influence this epigenetic misregulation may be useful for treating or controlling cancer.

The author gives examples of how epigenetic modifications may cause cancer. The inactivation of the tumour suppressor gene VHL causes renal cell carcinoma. This inactivation is due to promoter gene methylation. Similarly hypermethylation of CpG island in BRCA1 gene is associated with breast cancer. Over 20% of colon cancer cases have high levels of promoter DNA methylation.

Histone modification may also lead to repression of tumour suppresser gene ARHI in breast cancer. A similar relationship exists for PER1 tumour suppressor gene in small cell carcinoma of lung.

It is interesting to note that four drugs have been licensed by FDA in the USA for clinical use in cancer patients: 5-azacytidine (tradename Vidaza), 2-aza-5-deoxycytidine (Dacogen), SAHA (Zolinza) and romidepsin (Istodax). The first two work on DNA methylation; the other two on histone modification. These epigenetic drugs seem to be effective against myelodysplastic syndrome and cutaneous T-cell lymphoma but not solid tumours. It is not clear why.

Epigenetics is also involved in mental illnesses. Those individuals subjected to neglect or abuse in childhood are at a significantly higher risk of mental conditions or drug/alcohol abuse.

Brains of suicide victims show high level of DNA methylation at the cortisol receptor gene in the hippocampus. Higher methylation levels were found in people who had had a history of childhood abuse.

Addiction to cocaine and amphetamine in humans and experimental rodents is due to inappropriate adaptation by memory and reward circuit in the brain due to long-lasting changes in gene expression due to changes in DNA methylation.

Aging is associated with epigenetic modifications and increasing risk of cancer.

This book demonstrates clearly the impact of environmental factors on gene expressions through epigenetic mechanisms that are long lasting and can be passed from parent to offspring. These fundamental processes underline the future advances in the understanding and treatment of human disease, especially cancer.

This book will appeal to medical and non-medical readers who are interested in these issues.

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Disposition of Toxic Drugs and Chemicals in Man (9th edition)

R C Baselt
Biomedical Publications, 2011, $289.50, 1900 pp
ISBN 978 0 96265 238 7

This update on the previous editions of this essential text is a welcome addition, expanding on the 8th edition by 300 or so additional chemicals, and increasing the volume size by some 150 pages. As with the previous editions, this is an essential desktop reference text for practising analytical toxicologists and forensic toxicologists. Indeed most branches of toxicology will again benefit from the presence of this book in their library.

The format for each entry makes finding any of the chemicals listed easy, where entries are listed alphabetically at the front of the book under the contents listing, and each chemical has its compound name, chemical structure and, in the case of drugs, their product names. For each chemical, the half-life, volume of distribution, fraction bound to protein and dissociation constants is listed up front, followed by the occurrence and use of the chemical, its concentration in blood, its metabolism and excretion where known, its toxicity and finally the analytical methodology established for the chemical. One significant omission is the lack of data on the molecular weight of each chemical and, given the increasing use of mass spectrometry in analytical toxicology today, this addition would have rounded off what is a really comprehensive textbook. Perhaps this small criticism will be addressed in the next edition?

The textbook could be criticised for the brevity of some of the entries and the rather superficial way in which it covers many aspects when discussing the toxicology of the chemicals listed. However, it does not claim to be a comprehensive toxicology textbook in the vein of *Cassarett and Doull*, and does exactly what

the author originally intended, which was to provide a brief review of basic pharmacodynamics that will subsequently allow the reader/researcher to undertake more detailed reading where the summaries provided lack sufficient detail. Having said that, the references included with every entry, while small in number, do provide analytical toxicologists sufficient scope to look into the necessary methodology in more detail if necessary. The text provides an outstanding general overview of the most important compounds currently likely to cause toxicity to the public (many of which, I would add, are important therapeutic drugs and not simply 'toxins'), and has sufficient detail to address many toxicology-related questions. While the book doesn't provide antidote information for poisoning cases, it would still have an important place amongst the references used by the employees of the UK's Health Protection Agency and the National Poisons Information Service in their advisory capacity.

The author is a world-recognised expert in the field of analytical toxicology and the previous editions of this textbook have been worth their weight in gold. This weighty edition comes in at the grand size of 1877 pages. Subsequent editions will undoubtedly come in multiple volumes and the current edition only just reaches the span of a single volume. It does so at the expense of the text size which, for older practitioners, may make it somewhat taxing to read. Nevertheless the content for each entry is intentionally brief and the small text size should not detract from the very valuable contribution to the literature that this new edition makes.

As with previous editions, this new one is a *tour de force* for toxicological professionals and highly recommended for those engaged in analytical toxicology problems, either from a forensic or therapeutic-monitoring perspective. Its primary focus on human, rather than experimental animal information will make it, once again, an indispensable aid to medical professionals needing to deal with novel analytical problems for chemicals and drugs, and for experienced practitioners, it will provide reassurance for chemicals that have either never been encountered previously, or will provide valuable revision for methods used for those chemicals that are rarely encountered in the present day.

As with the previous editions, this updated edition will be an indispensable addition to the library of anyone whose day job involves dealing with poisoning cases either deliberate or accidental, and it will be a 'must read' for individuals preparing for toxicology examinations where the biological analysis of such classic chemical examples as acetaminophen, strychnine and paraquat are covered in detail.

The ninth edition continues the established tradition of providing access to rapid and precise data for analytical toxicology problems and should ensure a prominent place amongst the standard toxicology texts worldwide for those individuals entrusted with the role of monitoring the pharmacokinetic and pharmacodynamics of human poisoning cases.

An excellent book, to be thoroughly recommended to those involved in the assurance of public health and for everyone involved in toxicology in general.

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Transfusion Medicine: Case studies and clinical management

Aleksandar Mijovic
Springer, 2011, £26.99, 111 pp
ISBN 978 1 44712 181 7

Transfusion medicine is an integral part of medicine, which bridges haematology and almost all other clinical disciplines such as surgery, emergency medicine, obstetrics, organ and bone marrow transplantations. Instead of writing a standard textbook to teach the subject, Aleksandar Mijovic has adopted the different and, I believe, highly effective approach of writing a compilation of case studies that have been taken from the actual practice of transfusion medicine in hospitals.

The scope of the book is comprehensive. Each of the 24 case studies has been carefully chosen to illustrate a different yet common problem encountered in transfusion management. These include: indication for blood transfusion in difficult clinical scenarios, acute and/or delayed transfusion reactions (haemolytic and non-haemolytic), transfusion transmitted infections, therapeutic apheresis, transfusion-associated complications following bone marrow transplantation and granulocyte transfusion.

The cases are well presented and structured. Each begins with a brief description, followed by a series of question-and-answer sets. Through these questions and answers, Mijocivic talks us through the diagnosis, treatment and clinical outcome of the case as it had happened. It must be emphasised that this is by no means a straightforward academic exercise; the cases are difficult and the questions they raise are complex and challenging, covering clinical and/or laboratory diagnosis and their overall management. His answers often contain critical analyses of the cases and provide guidance on how to improve clinical outcomes of future cases. One example would be the implementation of practices that are aimed at reducing or eliminating the scope of human error in the process. Overall, the expert treatment of the cases reflects the author's experience and mastery of the discipline.

In addition, the case studies are complemented by photographs, diagrams and charts. Each chapter concludes with a short commentary, which provides the relevant background knowledge and summarises the most up-to-date studies for the topic. This is not meant to be an in-depth treatment, and interested readers should consult the sections on references and further reading.

The author has given us a very accessible, educational and invaluable book in transfusion medicine. The decision to structure the book as a series of case studies is a good one and makes for compelling reading. The book provides useful guidance for clinical and laboratory haematologists – particularly those in training – and it is indispensable for all clinical staff involved in transfusion practice.

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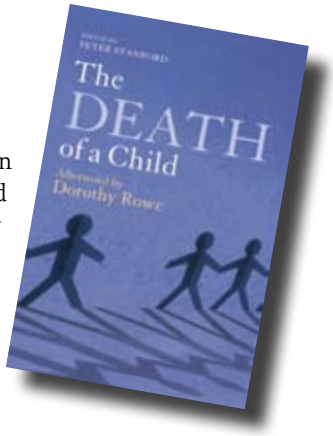
The Death of a Child

Peter Stanford (editor)
Continuum, 2011, £16.99, 173 pp
ISBN 978 1 44118 303 3



This series of recollections, written by people who have experienced the loss of a child, is undoubtedly extremely moving. Individually, the accounts provide a range of perspectives, expressed in very different voices and words, so at one level they lead you to understand the utterly personal nature of bereavement and coping strategies. One person's experience cannot speak for another's and therefore Peter Stanford's idea to bring together a collection of individual accounts was wise. At another level, the accumulation of voices succeeds in conveying a sense of community among strangers joined by a common experience. As a bereaved parent, now more than 20 years on from the loss of my daughter, there is some comfort in knowing that others are walking though life with their own ever-present memories.

I am left wondering, though, quite who the readership is intended to be. If it is for the general public, then there is almost a risk of voyeurism. As a filmmaker, I made a number of programmes involving bereaved families and there is a fine judgment to be made about combining several personal accounts. If the book is for a specialist audience, made up of those who work with the bereaved in one way or another, then I think it provides excellent background reading. If however, as the author suggests, it is for bereaved families and friends, then readers should be aware that it will be a potentially harrowing experience. At most, I managed to read one or two accounts at a time and even then I found myself deeply drawn into the emotions of the writer. Although I could empathise, it left me feeling quite upset. And I was not helped by the psychotherapist Dorothy Rowe's concluding piece about coping with loss. Following on from such powerful personal insights, it felt both unnecessary and detached.

This said, I am all for bringing such experiences into the open (as must be the book's author and contributors). If I sound contradictory, then suffice to say that the death of a child is not a subject that is easily broached. I commend those involved for attempting it.

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RCPath Lay Advisory Committee

Fundamental Neuropathology for Pathologists and Toxicologists

Brad Bolon, Mark Butt
Wiley-Blackwell, 2011, £100, 590 pp
ISBN 978 0 47022 733 6

The two editors of this volume aim for it to be a reference text of toxicological neuropathology, covering the design, analysis and interpretation of toxicological experiments involving the nervous system. This is a niche for which there is no contemporary rival, and it occupies it very comfortably. Drs Bolon and Butt are aided by 53 contributors from North America and Europe, who are mostly veterinary pathologists, but a broad range of other fields are represented.

The book is divided into four parts. In Part 1, the fundamentals of neurobiology are dealt with in nine chapters. The introductory chapter gives ten principles that are applicable well beyond experimental neurotoxicology. For example, the importance of recognising patterns of CNS injury and of distinguishing artefact from true neuronal degeneration ("'red and dead' is the real dead"). The atlas of comparative neuroanatomy is clear and includes a helpful table of neurodevelopmental events.

Part 2 is composed of eleven chapters in which a broad range of experimental methods are described, including histological, toxicological and molecular techniques. The chapters on stereology, fluoro-jade dyes for the detection of degenerating neurones and *in vivo* imaging are particularly good.

The third part is a practical guide in six chapters to sampling and processing tissue from the adult and developing nervous system, the peripheral nervous system and the major sensory systems. These chapters are thorough and well explained.

The final part covers applied toxicological neuropathology. In nine chapters, a wide range of topics are covered including toxicology in veterinary and human neuropathology, regulatory considerations, advice on how to prepare a neuropathology report and appropriate training of laboratory staff. Unfortunately, only US regulations and authorities are discussed.

The eight appendices are very helpful and include information on immunohistochemical markers, neurobiological parameters and web- and text-based resources.

The practical nature of the book is clear throughout. For example, in a chapter covering study design in Part 1, there is a very nice figure illustrating how important accurate sampling is by showing that 95 brain regions will be missed if a coronal section through the rat brain is either 1 mm too anterior or posterior than intended. The text is clear and personable – quite an achievement given the subject matter.

Whilst the authors make it clear that this is not an atlas (a list of which are given in Appendix 2), the main limitation of this book is the illustrations. In the body of the text, all the figures are black and white. Eighty-eight colour plates are grouped together in the centre of the book, but not all chapters are represented. It is inconvenient that whilst the legends for these colour figures include the chapter number, the figure legends elsewhere do not. The benefit of this arrangement is that the book is very reasonably priced.

This is a comprehensive text that includes a wealth of information on a very wide range of subjects. It will, of course, appeal to veterinary pathologists and neurotoxicologists, but it will also serve as a very good guide for diagnostic neuropathologists or histopathologists entering the world of toxicological or pharmacological research. I doubt that there are many who examine the nervous system of experimental animals who will not find this book of great use.

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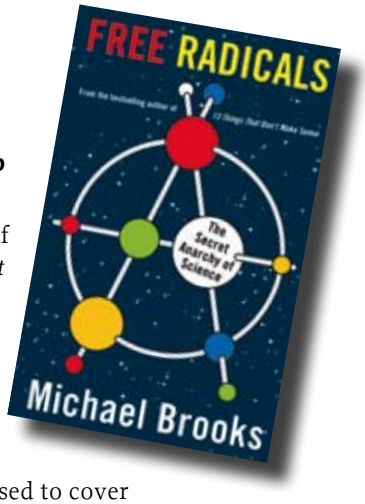
Free Radicals – The secret anarchy of science



Michael Brooks
Profile Books, 2011, £12.99, 311 pp
ISBN 978 1 84668 405 0

Riding high on the success of his first book, *13 Things That Don't Make Sense*, Michael Brooks sets out with the aim of highlighting the 'anarchy' that he feels forms the basis of significant scientific discovery. The term 'anarchy' is essentially used to cover all forms of risk-taking and rule-breaking by scientists, including falsification and selective publication of data, self-experimentation and deliberate suppression of work that contradicts one's own theories.

The first image that sprung to mind on reading the book was a lecturer of mine at university who, having not received a Nobel Prize himself, would pepper his otherwise achingly dull lectures with references to individuals from the university who had. Indeed, this book reads like a mildly diverting guide to Nobel prize-winning discoveries that have involved some degree of scientific misbehaviour. It is impressively researched and includes references to numerous sources, many of which are well worth reading in their own right. The book also reflects accurately, if rather dramatically, the competitive spirit and sometimes combative nature of academic science.

Nevertheless, one can't help feeling that there is a good deal missing from this book. In focusing on Nobel prize winners, he has left unexamined many interesting examples of scientific 'anarchy' outside the sphere of typical university academia. As a pathologist, an example that springs to mind is the study of human anatomy which, from Galen to von Hagens, has been associated with enough 'anarchy' to fill many books in its own right.

However, having forgiven the absence of Vesalius, Burke and Hare, the most glaring omission from this book is a detailed discussion of the issues surrounding scientific 'anarchy' that goes wrong. What happens to scientists who break the rules and don't get away with it? What differentiates the 'anarchy' that leads to good science from the 'anarchy' that leads to bad science? Such questions are glimpsed in the distance, but are never really satisfactorily discussed.

Overall, this is a well-written and extensively researched review of Nobel prize winners and the lengths they go to for success. Unfortunately, in his keenness to advance the idea that a degree of anarchy is necessary for good science, Dr Brooks fails to devote enough pages to discussion of cases that contradict this – presumably he feels that a degree of 'anarchy' is also necessary for good literature...

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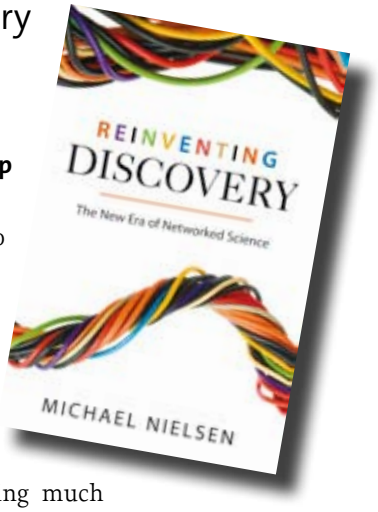
Reinventing Discovery – The new era of networked science



Michael Nielsen
Princeton UP, 2011, £16.95, 264 pp
ISBN 978 0 69114 890 8

Most of us think we do networked science – we search PubMed for relevant papers, work with collaborators at other institutions, send manuscripts round by email and often pool samples to give greater power to our studies – so I wasn't expecting much more from this book than an overblown account of how email and the internet has changed the way we work. In fact, Michael Nielsen's book goes much deeper than that and gives many insights into the way collaborative science is developing. He describes projects in which the internet has facilitated true collaborative working at a much more profound level than simply exchanging samples and co-editing manuscripts. Some of these don't have much relevance to pathology (jointly proving obscure mathematical theorems isn't for us) but others spark off ideas that could be very useful in pathology research.

The Galaxy Zoo project (www.galaxyzoo.org) puts thousands of images from the Hubble Space Telescope onto the web, together with some excellent training materials, and enables anyone to classify distant galaxies and so contribute to a huge database of all visible galaxies. There are now over 250 000 participants in this project, producing a huge scaling up of the classification process that makes the project feasible. In histopathology, a recurrent problem with many tissue-based studies is the scoring of immunohistochemical staining, especially on the hundreds of samples contained in tissue micorarrays. I already know of projects where the tissue array slides have been digitally scanned and are scored by histopathologists working in district general hospitals at some distance from the coordinating research centre, but even then the histopathologist capacity is being overwhelmed. Perhaps it would be possible to develop systems similar to the Galaxy Zoo that would enable members of the public to score immunohistochemical stains, vastly speeding up the process and increasing public participation in science?

The author also discusses the way in which results of scientific research are disseminated. He looks at the open-access publishing movement, but also more radical publishing formats including science wikis. I expect many of us speculate at what point Wikipedia will replace pathology textbooks (now, in many medical undergraduates' opinions!) and it is interesting to read about the various factors that may speed this up, or slow it down.

Although this book is written in the 'popular science' style, it is not as breathless as many comparable texts and it is written by a practising scientist with a widely cited output in the field of quantum computing. It is recommended reading for any academic pathologists.

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A Martian Stranded on Earth

Nikolai Krementsov
Chicago UP, 2011, £22.50, 175 pp
ISBN 978 0 22645 412 2

When I shucked this slim volume out of its envelope I first thought, "Ah, Martians! My love of science fiction has been found out, but why review it for the College?" The sub-title reveals the history of medicine connection: blood transfusions. The author is Associate Professor at the Institute for the History and Philosophy of Science and Technology at the University of Toronto and his name and some references in the introduction indicate that he is Russian; relevant translations are his own work.

In seven chapters of small, closely packed print, he promises to reveal the weird trilogy that was Alexander Alexandrovich Bogdanov, as the man was more usually known. His original family name of Malinovskii was mostly forgotten in favour of the pen name he took from his wife, Natalia Bogdanovora Korsak, for writing – first party political items, and later his most famous science fiction novel of 1908, *Red Star: Utopia*, then finally as director of the Institute of Blood Transfusion.

Krementsov opens with genealogy and acknowledgements, outlining how his own roving and disparate interests kept throwing up the name Bogdanov and, intrigued by the peculiar mix of Marxism, science fiction and blood research, he eventually followed up.

In the following chapters, he fleshes out the man who was a star pupil at university until his expulsion in 1894 for revolutionary activities. In 1899, Bogdanov graduated from a lesser medical school, got married and was imprisoned. By 1907, he was editor of the Bolshevik journal, *The Proletarian*, though shortly thereafter became disillusioned, arguing with Lenin and turned to science-fiction writing instead. At the revolution in 1917, he left the party and never re-joined. He was intermittently active as a doctor through the war, having been drafted in 1914, but suffered a breakdown shortly after, rendering him unfit for frontline duties. An interest in blood transfusion, which is apparent in his novel as a life enhancer for the Martians, manifests for real as an expression of brotherhood and as treatment with experiments during 1924, including himself and his wife. 1925 saw him treat Krasin, numbered 36 of 50 individuals on a list of the party elite, leading directly to his Institute appointment, which Krementsov reasonably concludes was a historical accident.

Bogdanov was not particularly suited to the post and the Institute was badly run. A review of its activities eventually included rejuvenation techniques such as use of testosterone, replacement of noxious bacteria in the gut with good ones from yoghurt(!), ligation of seminal vesicles and blood exchange. It did not mention the transfer of syphilis between two donors. On 24 March 1928, Bogdanov died following his twelfth blood exchange, of haemolysis and organ failure. The deed was reported as the "last heroic act of an unselfish physician and revolutionary".

The book is an account of medical ideas and activities that will make you wince, and writings that seem to issue from entirely different persons. Krementsov paints a vivid, difficult to interpret, modern abstract of a man who was as unusual in his time as he appears now. I was as fascinated by this odd life as the author was, seeing the thread of Bogdanov's patriotism through all these disparate careers and left wanting more. I tried and failed to track down a version of *Red Star: Utopia* to read, but to no avail. How about it Professor Krementsov?

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Rising Plague

Brad Spellberg
Prometheus Books, 2009, £21.95, 264 pp
ISBN 978 1 59102 750 0

Dr Spellberg is an infectious-disease specialist in the USA. In his well-written book, he graphically demonstrates the impact of bacterial resistance on real patients under his care. He uses this as a springboard to describe resistance, its importance and its root causes. He explodes some myths such as prescribing doctors causing resistance or dirty hospitals causing resistance. Of course they play a role, but it is evolution in response to selective pressure in the hospital, community and veterinary environment that drives the whole thing.

As might be expected, Dr Spellberg writes from an American perspective, and US healthcare (almost exclusively) and the section on contacting your Congressman doesn't travel well. But the best part of this book is his masterly analysis of why drug companies have given up on developing new antibiotics, instead focusing their efforts and investments (for sound economic reasons) on drugs for chronic conditions like obesity or diabetes.

I enjoyed this book and the section on the failure of pharmaceutical companies is a 'must read' for microbiologists and anyone else involved in infections. It is a bit depressing as well – there is no happy ending here. But to me, the book is really geared towards policy makers in the USA to help drive the antibiotic agenda and put pressure on government to fund antibiotic development. If you need arguments and facts on why microbial resistance is so practically important, then they are all in this book.

I should add that it is extremely well referenced throughout and the reference list at the back is a treasure trove in itself.

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The Craft of Scientific Communication

Joseph E Harmon and Alan G Gross
University of Chicago Press, 2010, £13 paperback
ISBN 978 0 22631 662 8

As a Professor of Pathology Education, and the College's Director of Public Engagement, I consider good communication skills to be a *sine qua non* of my professional life, as they should be to any

successful doctor or scientist. And by "good communication skills", I don't just mean clear oral presentations, but also effective written communication. A pathology report that conveys exactly what the pathologist is seeing down the microscope and precisely what those findings mean is absolutely essential to the clinician reading it. In recent years, the drive towards good communication skills has spawned a plethora of science communication skills courses, but there remains a dearth of literature to support such initiatives. Any publication that can help doctors and scientists improve the clarity, coherence and communicative power of their words and images should be worth its weight in gold. Consequently, I had high hopes for this book.

As luck would have it, the book arrived on my desk a couple of weeks before I was due to give a lecture at a national meeting, so I decided to road-test it during preparation of the talk. Section II is entitled 'Beyond the Scientific Article' and contains two chapters on the use of PowerPoint. Now I've no doubt that some of you will already have come across some of the many excellent guides on how to use PowerPoint, and you may be thinking that two chapters comprising 30 pages in total couldn't possibly compete with these weighty tomes. I have to admit that I myself was sceptical. As it happens, however, I was pleasantly surprised. Both chapters steered clear of giving advice on the aesthetics of slide design and instead concentrated on tailoring the presentation to reach an audience of listeners, rather than readers. The checklist at the end of each chapter contained some very useful tips on how to structure a talk, some of which I incorporated into my own lecture. So far, so good.

The book is organised into three sections: Section I, 'The Scientific Article', deals with research papers and grant proposals, Section II, 'Beyond the Scientific Article', deals largely with PowerPoint presentations and communicating with a lay audience, and Section III, 'Writing style', discusses how to compose and improve scientific English. Each chapter in Sections I and III uses previously published examples of good and bad writing from around the world of science, to show the reader that good scientific communication is a creative process, based not on formulas and templates, but on the scientist's purpose and intended audience. The checklists at the end of each chapter are presented as a series of questions to the reader and are an excellent summary for those who don't have time to read the book in its entirety.

The authors are well known in the field of science communication and so, not surprisingly, have produced a guide that adds a refreshing wealth of pragmatic advice to the literature that is already available. Knowing how little emphasis is placed on this hugely important topic in undergraduate science and medical degrees, I think that this book should be compulsory reading for all would-be science graduates. Indeed, even established scientists whose skills lie in areas other than communication could learn a thing or two.

My one criticism, which for a book on communication skills could be considered a significant defect, is that the presentation is what I can only describe as dull. The font, in my opinion, is outdated, all the images are in black and white, and the subheadings sometimes lack clarity, imparting a drabness on the written page that doesn't do justice to the content. This aside, however, this book is a significant contribution to the field – one that deserves to sit proudly on the bookshelf of any scientist or doctor who aspires to be labelled as a good scientific communicator.

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The Viral Storm: The dawn of a new pandemic age

Nathan Wolfe
Penguin, 2011, £14.99, 304 pp
ISBN 978 1 84614 298 7

Nathan Wolfe is a highly respected, merited and honoured research scientist from the USA. He has spent the most of his adult life in deepest Africa on a quest to further understand the biological evolution of new human viruses in the sense of a 'species jump' from anima – domestic or wild.

Wolfe holds the Lorry Lokey Visiting Professorship in Human Biology at Stanford University. He received his doctorate in immunology and infectious diseases from Harvard University in 1998, and has been the recipient of a Fulbright Fellowship (1997), the National Institutes of Health's Director's Pioneer Award (2005) and the National Geographic Emerging Explorer Award (2009). This book gives the reader the great privilege of a fascinating insight into the life of a GVF – global virus forecaster.

The book is littered with historic stories, personal experiences and photographs, memoirs and interesting facts about so many known viruses. There are snippets on Nipah, Ebola, Herpes B, hepatitis, influenza and of course HIV and many new, relatively unheard of viruses such as the Seneca Valley picornavirus and the GB virus C.

Wolfe discusses the role, the merits and the chances of various viruses – and microbes in general – as potential pandemic candidates and leads on to how we can possibly predict and/or control epidemics and pandemics. He introduces new terms and concepts, including 'emerging genes' and 'viral chatter'.

The book is written for a general audience but is as inspiring to scientists and biologists alike. In his conclusions, the author states that in coming years we will see more and more pandemic threats, with new infectious agents spreading and causing disease. This will be as a direct result of intersection between our densely populated cities, local culinary practices and wild animal trade. Wolfe suggests quite simply that as we move animals quickly and efficiently around the world, they will in turn seed new epidemics.

This book is an enjoyable read and provides an interesting perspective on new and old infections and how they spread and cause disease.

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Current Concepts in Head and Neck Pathology
Surgical Pathology Clinics, Volume 4, Number 4

Mary S Richardson (editor)
Saunders Elsevier, 2011, $60
ISBN 978 1 45571 157 4

This multi-author book is an easily readable, comprehensively referenced, enjoyable text. The photomicrographs, clinical pictures and radiological images are of the highest quality. The list of contents very helpfully includes short summaries of the lesions discussed in each chapter.

The sections on oral pathology will be particularly helpful to the general pathologist. These highlight conditions such as oral mucosal dysplasia associated with lichenoid histology and proliferative verrucous leukoplakia, emphasising the diagnostic importance of close clinicopathologial correlation. The chapter on odontogenic cysts and tumours is supplemented with high-quality radiological images, which are a prerequisite in clinical practice for accurate diagnosis. A salient discussion of HPV-related squamous cell carcinoma is included in the chapter on the oral cavity and oropharynx. This includes a summary of the current methods of testing for HPV in clinical samples. The discussion of bone lesions of the head and neck usefully includes the differential diagnosis of benign fibro-osseous lesions and the importance of clinical, radiological and intraoperative information in accurate diagnosis.

As indicated in the summary of contents, the chapter on neoplasms of the sinonasal tract is select. It discusses the most common benign and malignant lesions encountered in clinical practice and includes helpful tables to aid differential diagnosis. The importance of appropriate immunohistochemistry, ISH (EBV) and molecular studies in accurately categorising malignant tumours is emphasised in the context of targeted therapy. Discussion of less common tumours, such as the NUT midline carcinoma, is left to larger texts.

The succinct chapter on the larynx and hypopharynx includes a concise table comparing the different classification schemes for laryngeal dysplasia. The correlation with management strategies is discussed, highlighting controversies over which lesions persist or are self limiting or reversible.

The chapters on salivary gland tumours briefly discuss the most common benign tumours, with a more comprehensive discussion of malignant tumours. There are summaries of useful adjunctive immunohistochemistry, including the values of p63, CK5/6 and vimentin in distinguishing salivary clear cell carcinomas from metastatic renal cell carcinomas. Molecular correlates in salivary tumours are discussed and include the MECT/MALM2 translocation in mucoepidermoid carcinomas and the novel fusion protein EWSR1-ATF1 found in almost all clear cell carcinomas. The addition of FISH reflecting the MECT/MALM2 translocation in diagnostically challenging mucoepidermoid carcinomas is well illustrated. The current limitations of testing for EWSR1-ATF1 in the differential diagnosis of clear cell carcinomas are clearly summarised.

The specialist pathologist will supplement the information contained in this book with more comprehensive and specialised textbooks, including *Diagnostic Surgical Pathology of the Head and Neck* (Douglas and Gnepp), *Biopsy Pathology of the Oral Tissues* (Odell and Morgan), *Cysts of the Oral and Maxillofacial Regions* (Shear and Speight), and *Ear Nose and Throat Histopathology* (Michaels and Hellquist).

The only omission in virtually all recent textbooks of the pathology of the head and neck is the pathology of the dental hard tissues. The last seminal, comprehensive text dates back to 1970 (*Pathology of the Dental Hard Tissues*, by JJ Pindborg).

This book will serve as an excellent introduction to the pathology of the head and neck for both the general and the specialist pathologist. It is an easily affordable addition to the library of the pathologist in training and is to be recommended as such.

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