

reviews

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SARS Reference

Eds Bernd Sebastian Kamps,
Christian Hoffmann

Flying Publisher, pp 85
Available to download for free at <http://SARSreference.com/>

Rating: ★★★

On 6 June 2003, as has become my habit, I glanced at the World Health Organization's global epidemic curve for severe acute respiratory syndrome (SARS). With infection control procedures finally taking hold in China, the shape of the curve was moving downwards and approximating the bell shape so clearly described in epidemiology textbooks.

The relative brevity of the bell for the 21st century's first major epidemic can be attributed to an aspect of 21st century medicine that had never before been tested so singularly, and completely: multinational collaboration, real time epidemiological updates, and online medical publication all made possible through digital connections.

The speed with which data, experience, successes, and failures were shared appears to have slowed the epidemic.

The recent spate of online SARS offerings has provided more than graphs and data: it has also given us a SARS textbook. *SARS Reference* intends to summarise information on the SARS outbreak each month for the duration of the epidemic. The first edition, covering information available since the outbreak began in November 2002 and current as of 6 May 2003, was written over 14 days by a group of volunteers and posted at SARSreference.com on 8 May 2003. So far, it has been translated into Chinese and Spanish, and the editors promise to release copyright to individuals who are willing to translate it into other languages. They report that there is currently no sponsorship for the site, nor would any be accepted.

SARS Reference is a comprehensive summary of what we know to date. It is well organised into nine chapters, from the epidemiology of outbreaks in different countries to SARS in children. Each is available in printable format, and extensively referenced. The strongest sections are those on virology and diagnostic testing. Sections on transmission/prevention and case definition rely heavily on recommendations from the US Centers for Disease Control and WHO,

with some support from the published literature.

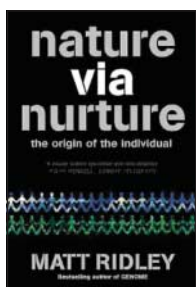
Both for SARS medicine and for online publishing, this is an important step forward. Its greatest strengths are its comprehensive review of the literature, an abundance of links to authoritative internet sites, and refreshingly clear writing. Unfortunately, there is no mention of peer review and no assurance that the information offered is accurate enough to guide appropriate management of a group of SARS patients. Further, as evidence of varying quality accumulates, and changes from observational to experimental, the task of synthesising and summarising it will be less easy, and will require critical analysis that is not offered here.

Clicking on WHO's website, I opened the epidemiological curve for Toronto, my home. It also showed a nice bell curve. Two of them, actually, and the second seemed not quite done. Apparently, there are lessons that this disease has yet to teach us, and for the time being, there seems no better record than SARSreference.com

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Nature via Nurture: Genes, Experience and What Makes Us Human

Matt Ridley



Fourth Estate, £18.99, pp 328
ISBN 1 84115 745 7

Rating: ★★★★★

This debate—nurture versus nature—has more or less dominated the 20th century. At the two extremes were Stalin, with his communistic ideas about the influence of education and environment, and Hitler, with his eugenic ideas about race superiority. The debate has also entered the field of education: are children clean slates, able to be moulded by their environment, or are their intelligence and character inherited? Ridley covers all these aspects and many more in a very eloquent, fluent style that leaves no space for boredom.

So what is Ridley's main argument? He is not very direct and doesn't choose the side of the environmentalists or the geneticists. His aim is to convince us that there is not a polarity but a synthesis. To see human development ruled only by genes carried by DNA, not influenced by the environment, is too simple. Genes are regulated by promoter genes, and these in turn can be switched on or off by environmental factors. As he says, genes are enablers, not constrainters.

He even, in a witty way, tries not to alienate religious readers. What is it that designs and guides genes? He calls it a genome

organising device, or GOD. He also reminds us that there are seven different definitions for genes—different ways of approaching them. He says that the presumed linear relationship between genes and illness (such as a gene for diabetes) is just one of the ways of approaching the concept of genes.

The real treasure of this book is in his essay on free will. He feels that modern science can glimpse the scientific basis for free will as we begin to understand the brain. He comes up with the concept of circular causality: genes related to learning and memory not only cause behaviour but respond to experience through promoter genes. These promoter genes again set a process in action that affects memory.

This book is a very pleasurable way to update your knowledge on the nature versus nurture debate. It is fast paced and well written and is even suitable for a tired doctor after a day's work. Yet in the end I am still not convinced that nurture and nature, however they work together, are the only influences in our lives. I am left being quite intrigued by the role of GOD.

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*Items reviewed are rated on a 4 star scale
(4=excellent)*



How the media left the evidence out in the cold

Quest for cures in news coverage of drug trial was “a disservice to the public”

It is understandable that US newspapers and television stations would be interested in a story about a new drug for the common cold. Americans have one billion cold infections each year, losing millions of days of work or school (www.niaid.nih.gov/factsheets/cold.htm). What is difficult to understand is why and how so many journalists became cheerleaders for an investigational drug that, in the end, failed to pass the test of clinical trials.

The drug, pleconaril, was in clinical trials from 1997 to 2002. ViroPharma Inc, the drug manufacturer, submitted data to the Food and Drug Administration (FDA) Antiviral Drugs Advisory Committee in March 2002, requesting approval to market the drug for common colds in adults.

The evidence showed that those who took pleconaril reduced the span of cold symptoms by about a day compared with those who took a placebo. (Non-whites had no statistically significant reduction in days of symptoms after taking pleconaril.) The drug appeared to be better than placebo only if taken in the first 24 hours of a cold—something committee members felt was unrealistic. More than 3% of women taking pleconaril and oral contraceptives experienced menstrual disorders, and two women also became pregnant while taking pleconaril and oral contraceptives (www.fda.gov/ohrms/dockets/ac/02/briefing/3847b1_02_FDA.pdf).

The FDA advisory committee unanimously recommended rejecting the manufacturer's application. The company announced that it was ending trials five months later. The FDA action came as no surprise to anyone with even a rudimentary knowledge of clinical trials. But the story must have shocked many journalists who had predicted imminent approval and availability to their readers and listeners. Evidence—and completing the trials—didn't seem to matter in many news stories.

It fell far short of what any rational person would call a cure. Yet hundreds of journalists called pleconaril just that—and more—in hundreds of news stories before the drug was ever submitted to the FDA for approval.

A review of four databases (Lexis-Nexis, Factiva.com, PR Newswire, and Vanderbilt University Television News Archives) showed that from 1997 to 2002 there were 982 stories on pleconaril in US newspapers and television newscasts. About a third of the stories

used sensational terms in describing pleconaril or made bold predictions about how and when the drug would be approved by the FDA and on the market. Journalists used an array of superlative terms for the drug—cure, miracle, wonder drug, super drug, a medical first. It was described as “good news for physicians and their patients,” “potentially huge,” and as a treatment that “may drastically help relieve your misery.” It was compared with the search for the Holy Grail and with man's landing on the moon. Regarding side effects, most stories included throwaway lines advising that the drug appeared to cause few side effects, none serious. Eight times more stories were reported during the giddy promise of the clinical trials than after the FDA vote.

In January 2000 the Associated Press wire service ran a story that was the impetus for at least two dozen stories across the country. The story quoted one ViroPharma-funded investigator saying, “This IS the cure for the common cold.” The next line of the story was, “Some might quibble over that word.” But the story—“cure” quote and all—was published by at least 25 US newspapers. Newspapers in Seattle, St Louis, Chicago, Orlando, Portland, Cincinnati, and

Philadelphia printed bold headlines calling pleconaril a wonder drug, an apparent cure that might be on sale within a year, and one that sent ViroPharma's stock soaring. The AP story is still available on the ABC News.com website more than two years later under the headline “The Miracle Virus Cure” (www.abcnews.go.com/sections/living/DailyNews/viruscure_000116.html).

The night after the AP wire report, NBC Nightly News broadcast a pleconaril report. Anchorman Tom Brokaw, with a graphic reading “Magic Bullet” over his shoulder, said the drug, “could eventually be a giant leap for mankind.” The next day then-ABC anchorman Aaron Brown said, “A cure for the common cold and a whole lot more could be coming ... The drug is called pleconaril and could be available within a year.” Fifty-two local television stations followed with stories.

In December 2001 CNN Headline News ran 23 stories on pleconaril in 24 hours. That month, ABC's *Good Morning America* programme reported, “a breakthrough in the search for the cure for the common cold.”

Learning from the pleconaril story: guidelines for medical reporting

- Quantify the magnitude of the benefit. If results of clinical trials of pleconaril had been quantified clearly and consistently—namely, that this drug reduced the span of symptoms by one day compared with placebo—then it would have been evident that use of the term “cure” was inappropriate.
- Avoid naïveté about side effects. Journalists should learn from the case of pleconaril that a manufacturer is under no obligation to share all information about side effects with journalists before the company's submission to the FDA. But journalists should also be aware that some drug side effects are not discovered until after the drugs are on the market and used by many people. To report—without qualification—that a drug has few side effects when it is only in clinical trials is wrong.
- Journalists who don't understand clinical trials should not report on them. A television station or newspaper with no one on staff with specialised training in health journalism should consider leaving such reporting to others. Because of the smaller numbers of people typically involved in phase I and II trials, and because they occur earlier in the testing cycle, it may be prudent for journalists to avoid reporting on these early phases of trials.
- Journalists must think about the possible links between the sources of information (studies or experts) and those (such as the manufacturers) who promote the therapy. It is not acceptable to report a healthcare story after speaking with only one source. If that source is a company scientist or even someone whose work is funded by the manufacturer, the risk to quality journalism should be clear. Quotations from a drug maker or from investigators in a clinical trial cannot go unchallenged.
- Journalists should avoid the use of vague, ill defined, sensational terms such as cure, miracle, breakthrough, promising, dramatic, hope, and victim (www.tc.umn.edu/~schwiz/The7words.htm). These terms clouded underlying issues in stories about pleconaril.
- Journalists have an obligation to follow up on healthcare stories. Journalists who used sensational language in positive news reports concerning pleconaril failed, for the most part, to report negative news when it occurred.
- Journalists covering health/medical news must apply the same scrutiny and scepticism that they would apply in any other news story. Instead of asking, “How long will it be until this is on the market?” journalists should consider asking, “What are the potential barriers that could keep this from being on the market?”
- Editors, producers, and news directors must be responsible for the total news package. Newspaper reporters often explain that they don't write the headlines. Television reporters don't create all of the graphics, the promotional “tease” copy, or the anchor introductions that embellish their stories. But someone in a news operation has to assume responsibility for what impact these elements have on the final story that is delivered to readers and viewers. In the case of pleconaril, each of these elements helped create a sensational tone for coverage of this drug.

These guidelines are modified from principles listed in an article by freelance journalist Ray Moynihan and colleagues (*New England Journal of Medicine* 2000;342:1645-50).

Now the hype has died and another embarrassing chapter in health news coverage is buried amid other stories of Raelian cloning claims, Botox, and “the hurried woman syndrome.” But there are important lessons from this episode.

Dr Ronald B Turner of the University of Virginia once conducted some research for ViroPharma. He thinks journalists should be concerned about how they covered the pleconaril story and he called the news coverage a disservice to the public, contributing to the public’s science illiteracy.

“People can’t distinguish between valid results and charlatanism,” he told me. “This kind of story dulls the borders. It allows the public to distrust science. You pick up the paper one day and read that cholesterol causes heart attacks and you pick it up the next day and read that it doesn’t. It becomes easy for people to feel that scientists don’t know what they’re doing.”

Few journalists covering pleconaril questioned basic assumptions about the safety and effectiveness of a drug that was still in clinical trials. The trials were treated almost like mere formalities on the path to what was often portrayed as almost predictable final marketing approval.

In his book, *Science, Money and Politics* (University of Chicago Press, 2001), Daniel Greenberg wrote, “The press, on its own, if it chooses, can make the transition from cheerleaders of science to independent



Headlines hailing pleconaril as a wonder drug sent ViroPharma’s stock soaring

observers ... The journalistic trumpeting of medical cures on the basis of wisps of evidence, even though accompanied by sober cautions against optimism, deserves to be severely throttled back, in recognition of

an unfortunate reality: though news is sold around the clock, major advances in medicine come along infrequently.”

Perhaps by seeing the number of times journalists inappropriately used sensational language on this one drug story, broadcast news managers and newspaper editors will apply stricter guidelines to the coverage of drug news and all medical news (see box). Journalists who follow just a few recommendations may avert another embarrassing episode such as the coverage of pleconaril.

An Associated Press newswire story is an appropriate footnote to the pleconaril story. “A federal judge has authorized a class-action lawsuit that accuses a Pennsylvania biotechnology company of misleading investors into believing its experimental common-cold drug would be approved by the Food and Drug Administration,” AP reported on 9 April 2003. The story added, “ViroPharma’s lawyers argued that the company had no duty to predict the FDA’s decision, nor to disclose drug interaction data from its birth-control study” (www.cbsnews.com/stories/2003/04/09/health/main548595.shtml).

With cheerleading journalists predicting FDA approval and making bold drug safety statements before all the evidence was reported, journalism, too, is on trial in this case. Drug companies are now spending more than \$2bn (£1.2bn; €1.7bn) a year on direct to consumer advertising for prescription drugs. It is not the job of journalism to contribute free advertising to that total.

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WEBSITE OF THE WEEK

SARS art As we have pointed out in previous columns, severe acute respiratory syndrome (SARS) is very much an epidemic of the internet age (<http://bmj.com/cgi/content/full/326/7395/937/a> and <http://bmj.com/cgi/content/full/326/7399/1152-a>). But information and data about cases, symptoms, and treatment are not the only SARS related material online. The outbreak has also spawned much digital folk art.

The SARS Art Project (www.sarsart.org/) is evidence of how much the epidemic has captured the popular imagination, particularly at the height of media attention over the disease. The site, which began as a series of posts on the weblog BoingBoing.net (“a collection of wonderful things”), features a range of “found” and original images, “online oddities that demonstrated the epidemic’s social impact throughout the blogosphere.”



Judging from most of the contributions from BoingBoing readers and net artists, it is clear that the mask is to SARS what the condom is to AIDS. Many of the artworks feature masks, from couture creations from the Philippines (www.inq7.net/lif/2003/apr/06/lif_8-1.htm) to a parody ad for a Michael Jackson style SARS mask (www.xeni.net/images/boingboing/sars/misc/terre.jpg), and even a surgical mask design for the *Star Wars* character Darth Vader (www.tkblog.com/pics/linked/darthsarsmask.jpg). Among the more striking images are *SARS!* (pictured), by net artist Katie Bush, and one of gods posted on doors in ancient (and modern) China to ward off evil spirits and “kick demon ass” (www.sarsart.org/sars-ghi.php).

Xeni Jardin, who has created the SARS Art Project, says, “Online art and weblogs are cheap, instant, and capable of reaching millions worldwide.” She adds, “They make what’s global, personal; what’s personal, global.”

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PERSONAL VIEW

Argentina: torture, silence, and medical teaching

More than 30 years ago I asked my surgical instructor about petechial lesions on the scrotums of some criminals interned in the surgical ward. The shocking answer was, "Oh, yes, the police make them all go through 'the machine' before taking them to the hospital." The machine, the "picana eléctrica," was a device for torturing prisoners with electric shocks, usually in the vagina, testicles, mouth, anus, or nipples. I was horrified by the fact itself but no less by the matter of fact tone in which the answer was given. As a medical student I was pretty powerless, but I went to the head of the surgical service and tried to lodge a formal complaint. I was rebuffed without any chance to make my argument heard.

Since 1983 we have been living under a "democratic" government, but torture is still rampant in Argentina. Sergio Gustavo Durán was arrested by the police in 1992. He was 17 years old. The arrest was routine—he wasn't involved in any criminal activity. The next day he was found dead. Puncture wounds reported in the autopsy by the police doctor were explained as "scratching lesions." A subsequent non-official autopsy described intraleolar haemorrhages typical of the "dry submarine," a torture in which a plastic bag is put over the head until the victim nearly suffocates. The authors of this crime were not detained until four years later, when some of them, though fugitives, were still getting their monthly pay from the police. The police doctor is being prosecuted, but the verdict has not yet been issued. Every year several episodes of this kind are denounced by human rights organisations, each time starting the usual chain of denial and cover up from official institutions, often with the collusion of doctors.

But what I wish to comment on is the continuing passivity of medical teaching organisations—difficult to understand in a democracy. Sergio Pesutic, a Chilean psychiatrist, has described the phenomenon of torture and the role of Chilean health professionals, ranging from active complicity to denial of its existence and sometimes to resistance. He concluded that several primary prevention measures should be taken to avoid torture, including the incorporation of human rights teaching into formal and non-formal medical curriculums, the application of codes of medical ethics, and research into the long term effects of torture. It's high time to heed Dr Pesutic's suggestions.

Although most Argentinian doctors react with horror to the idea of torture, the medical establishment has not come to the same categorical rejection. Human rights is not yet

a standard subject in medical schools, even in bioethics courses. The national academies remained silent on the issue after the end of the military dictatorship in 1983. In 2001 most of the members of the National Commission of Biomedical Ethics resigned in protest at the appointment of Alberto Rodríguez Varela, a former justice minister in the military dictatorship. Ironically but alarmingly, Dr Rodríguez Varela was proposed by the National Academy of Moral and Political Sciences.

Dr Pesutic described torture as the "criminal expression of a perversion of society's values." The criminal and unethical behaviour of doctors involved in or colluding in torture reflects a society's moral decline. The US bioethicist Edmund Pellegrino wrote: "Protection of the integrity of medical ethics is important for all of society. If medicine becomes, as Nazi medicine did, the handmaiden of economics, politics, or any force other than one that promotes the good of the patient, it loses its soul and becomes an instrument that justifies oppression and the violation of human rights." I agree with other writers that the social and economic status of doctors places them closer to the well off and influential than to the poorer sectors of society and that, historically, torture has targeted poor people and their advocates. Almost all current victims of police brutality and torture practices in Argentina are poor and so are relatively defenceless. Argentinian doctors, although not usually rich, have high social prestige—perhaps this accounts for their silence.

Until a serious effort is made to reconstruct a values system that is based on people's intrinsic dignity, torture will persist—as it did in my student years, long before the military took power. This reconstruction must involve access to education and health for all and the eradication of misery. As doctors we should make human rights central to our teaching, and students must learn that to be complicit with torture is despicable.

However, military dictatorships are not responsible for all our evils. Shared social values in Argentina have deteriorated so much that there is little chance of putting an end to these crimes against humanity without a serious commitment to change by all social groups. Perhaps this is a warning to other countries in these uncertain days, when the deaths of human beings are termed "collateral damage"—an expression of scorn for human dignity.

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We should make human rights central to our teaching

SOUNDINGS

PIGPEN therapy for head lice

Background A review of the evidence suggests that chemical treatment is superior to combing in the treatment of head lice (*BMJ* 2003;326:1256-8). But there's combing and combing.

Participants and methods Two hundred urchins were recruited from a school playground and randomised using a culturally congruent method ("Oi, you lot—number off"). Exclusion criteria included congenital alopecia (n=1), dreadlocks (n=4), and having a parent who showed enthusiasm for rubbing organophosphates into his or her child's head (n=0). The intervention group were each supplied with a plain white envelope (0.03p, Woolworths), a plastic nit comb (40p, Boots), and a magnifying glass (free with cornflakes).

In phase 1, the child was offered 1p for every live louse caught in the envelope. The creatures were carefully counted and a strict taxonomy applied ("that's only a bit of skin," "he's not wriggling," etc), and the debt paid in cash. In phase 2, the stakes were raised to 10p, and in phase 3 to 50p.

Results The mean fee paid to each child was: in phase 1, 31p (95% confidence interval 16 to 78); in phase 2, 63p (7 to 99); and in phase 3, 21p (0 to 157). No parent in the intervention group reported physical abuse from his or her child as a result of attempting to apply chemicals without full consent, and no child was rushed to casualty with organophosphates in the eyes. All were nit free a week later. By three months all had been reinfested—that's nits for you.

Conclusion Parent-incentivised, graded, patient extraction of nits (PIGPEN) therapy is an acceptable, safe, and cost effective treatment.

Discussion Previous studies of physical treatments for head lice have ignored the social and psychological dimensions. "Wet combing" using liberal application of hair conditioner requires passive co-operation from the child and runs counter to prevailing norms (see, for example, negative role models in popular culture—eg, Softie Walter,¹ Draco Malfoy,² Olive Oyl³). In contrast, PIGPEN therapy draws subliminally on contemporary peer written literature to develop a ghoulish interest in micro-organisms and apply creative schemes to extract money from parents.⁴

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1 *Beano*.

2 Baddy in *Harry Potter*.

3 *Popeye*.

4 Simpson B. *Guide to Life*.