reviews

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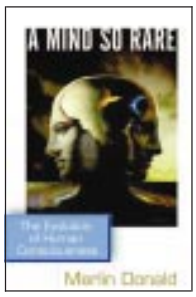
A Mind So Rare: The Evolution of Human Consciousness

Merlin Donald



W W Norton, £22.95, pp 371
ISBN 0 393 04950 7

Rating: ★★★

There has been tremendous progress over the past few decades in understanding the nature and functioning of human consciousness. Although this knowledge has not yet settled into an explicit consensus, and details are lacking, nevertheless all the necessary elements are in place. A theory of human consciousness is here or hereabouts.

From the evidence of this book, Donald is one of those who substantially understand consciousness—which is to say that he can give a coherent and broadly valid account of the evolved function of consciousness and its main modes of operation. *A Mind So Rare* can therefore be added to a list that would include Francis Crick's *The Astonishing Hypothesis* (1994), and Antonio R Damasio's *Descartes' Error* (1994) and *The Feeling of What Happens* (1999).

Although the book ranges widely, Donald's particular contribution seems to be his understanding of *cultural* evolution. Twenty thousand years ago, human social organisation was qualitatively similar to that of great apes such as chimpanzees and bonobos—all humans were probably nomadic hunter gatherers. Since this time, and despite the fact that there has been no significant biological evolution of the human brain, there have been numerous waves of cultural change that transformed human life. These depend on information exchange, and Donald is tremendously enlightening on the subtle interaction between the human brain and these "objective" forms of information that are embodied in social organisation, practices, and written language and numbers. The new relation of brain and culture has produced no less than a qualitative transformation in the scope of human consciousness.

But there are problems: the book has significant stylistic flaws. Early chapters, especially, seethe with irritation directed at other researchers whose views are variously ridiculed as incoherent and characterised as immoral. The high prevalence of bad temper makes for unenjoyable reading.

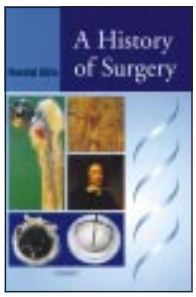
More fundamentally, I found the book to be well written and yet at the same time difficult to understand. Donald largely succeeds in engaging the reader, but substantially fails to communicate his key concepts (at least, on first reading). Maybe the book is trying to do too much (for example, to settle scores with old adversaries, to impress the general reader with cultural references) to be able to concentrate on lucid exposition.

Consciousness studies are in a transitional phase and *A Mind So Rare* reflects this. Eventually terminology will settle down, and a definitive account will emerge. My belief is that human consciousness is simpler and more comprehensible than Merlin Donald implies. But the ramifications and implications of even a simple theory of consciousness will probably take centuries to elucidate.

Bruce Charlton *reader in evolutionary psychiatry, department of psychology, University of Newcastle*

A History of Surgery

Harold Ellis



Greenwich Medical Media, £29.50, pp 264
ISBN 1 84110 023 4

Rating: ★★★★

Modern medicine is largely a 20th century development, but surgery has been around for hundreds of years in one form or another. In fact, the word "emergency" usually brings to mind a surgical rather than a medical emergency. The leap that surgery took from barber surgeons to proper surgeons and from a field that caused pain, sepsis, and death to the aseptic, pain free, and curative surgery of today is perhaps incomparable with advances in other fields. Harold Ellis has therefore chosen a fascinating subject for what turns out to be a fascinating book.

You will learn that surgeons have been quick to publish and that the first paper on the use of *x* rays in the localisation of pathology (a bullet in the wrist) was published in the *Lancet* on 22 February 1896—less than two months after *x* rays were discovered. Ephraim McDowell, however, did not rush to publish the details of his first laparotomy to excise an abdominal tumour. He waited eight years and performed two more successful operations before publishing a report in *Eclectic Repertory and Analytic Reviews* in 1817.

The book begins with the surgery of prehistoric times and moves on to the surgical skills of the ancients. It covers the Renaissance, the age of the surgeon-anatomists, and the surgery of warfare ("the only thing to benefit from war is surgery").

It is profusely illustrated, in black and white and in colour, with many photographs selected from classic articles and books. Ellis's use of original quotes and artwork from many of the creators of surgery—people such as Ambroise Paré (1510-90) and Harvey Cushing (1869-39)—coupled with the personal flavour that he adopts, makes this book highly readable. Ellis quotes Paré's observations on the treatment of gunshot wounds and on arresting bleeding after amputation of a limb (by tying the divided blood vessels rather than by red hot cautery). Harvey Cushing, who is recognised to have been the founder of neurosurgery in the United States and who made an important contribution to the surgery of head injuries during the first world war, was also an accomplished artist whose own drawings illustrated his books and articles. Ellis also reproduces photographs of the first dog to have survived six months after renal transplantation.

Apart from a reference to Christopher Barnard rather than to Christiaan Barnard and a printer's devil in a caption (to figure 9.22), predating an operation by a hundred years from 1915 to 1815, I could find little fault with this book.

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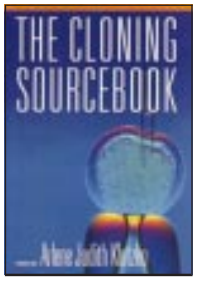
Items reviewed are rated on a 4 star scale (4=excellent)

The Cloning Sourcebook

Ed Arlene Judith Klotzko



Oxford University Press, £27.50, pp 328
ISBN 0 19 512882 6

Rating: ★★★

Any decision to proceed with human cloning ought to be taken by society and not by the enthusiastic scientists who devise and perfect the necessary techniques. Those, including the scientists, who doubt the capability of the public to make wise decisions, would do well to recall the opinion of Thomas Jefferson: "I know no safe depository of the ultimate powers of the society but the people themselves; and if we think them not enlightened enough to exercise that control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion by education" (*Thomas Jefferson on Democracy*, Mentor Books, New York, 1939).

The quality of the public debate on human reproductive cloning has not been of a high standard. A leading British bioethicist, John Harris, wrote after the birth of Dolly, the cloned sheep, that "the ethical implications of human clones have been much alluded to, but have seldom been examined with any rigour" (*Journal of Medical Ethics* 1997;23:353-60). He was critical of the almost hysterical, knee jerk opposition to reproductive cloning that had followed the triumph of Dolly's creator, Ian Wilmut, and his colleagues.

In *The Cloning Sourcebook*, Raanan Gillon examines the arguments against human reproductive cloning and concludes that a temporary ban is justified. The technique is, at present, unsafe and the technology is likely to be taken up by such a small proportion of the population that considerations of distributive justice would also support the ban. In addition, there has not been enough time for a full social debate on such a contentious issue. Gillon, like many other ethicists, does not believe that a cloned child would suffer harm because of knowledge about the life of the donor of the nucleus that gave rise to her. Nor is he swayed by arguments about the potential social harms that might result from reproductive cloning—harms such as racism, eugenics, mass destruction, or the violation of the security of genetic material. The danger to humanity's future is, says Gillon, not presented by the technology but, rather, by the social structures that would permit "the predations of the control freaks, whether they are the control freaks of state or religion or science or big business, or simply of crooked gangsters who seek to use us for their own ends."

The *Sourcebook* contains an interesting account of the context in which cloning has occurred, with excellent analyses of the ways in which the media, on both sides of the Atlantic, has reported on cloning. In comparison with US newspapers British newspapers provided little scientific detail—not surprising if one considers that there are more science writers on the *New York Times* alone than on all British newspapers put together.

Relatively little attention is paid in the *Sourcebook* to the topic of embryonic stem (ES) cell research or therapeutic cloning, which holds out the promise of effective therapy for a host of diseases. It is permitted in the United Kingdom but it has been virtually outlawed in the United States. The Bush administration is strongly opposed to research that involves the "killing" of embryos, even if they are "surplus" by-products of in vitro fertilisation programmes. Recently, however, President Bush approved the use of existing ES cell lines that have been established in the US private sector or in other countries. Cynics claim that this is because of the possible commercial benefits that may result from such research.

It is to be hoped that the general public, as well as health professionals, will read *The Cloning Sourcebook* and other publications dealing with the scientific and ethical aspects of cloning. We might then feel more confident that society will, in Jefferson's words, be "enlightened enough to exercise that control" over the future uses of cloning technology "with wholesome discretion."

DANIEL LUEDERT/AP PHOTO

Triumph: Wilmut and Dolly. But should human cloning be banned?

Trefor Jenkins *professor emeritus, department of human genetics, South African Institute for Medical Research and University of the Witwatersrand, Johannesburg*

NETLINES

- "A healthy America depends on a healthy world" is one of the core messages of www.globalhealth.gov, a global portal for the US Department of Health and Human Services. "Addressing health globally enhances America's stature overseas and its own national security" is another, and one that has increased resonance since 11 September. While this site inevitably puts the United States at the centre of its world view, it has elements that will be of interest to anyone interested in health from an international perspective. It is easy to navigate and has a number of useful links.
- A super links page from the Friends of the Children of the Great Ormond Street Hospital (www.ich.ucl.ac.uk/library/noframes/resource.htm) covers a wide range of topics from epidemiology and genetics to the full text of the report of the Bristol Royal Infirmary Inquiry. Although this is a British site, its vibrant, well chosen, and feature packed selection of paediatric and related resources will also be of interest to those outside the United Kingdom. This is not just for paediatric specialists.
- The British Thoracic Society has produced a useful set of guidelines (www.brit-thoracic.org.uk/guide/download_guide.html) on various respiratory issues, including the management of chronic obstructive pulmonary disease and control and prevention of tuberculosis in the United Kingdom. The clear and logical layout of the page allows easy access to this collection.
- Those who have a handheld computer that uses the palm operating system may want to check out http://freewarepalm.net/medical/medical.shtml. This is a collection of programs that can be downloaded and used in a handheld computer. As well as being a collection of medical programs, as the site name suggests, this is a freeware collection. A general tour of the site reveals plenty of programs on offer in a number of other categories.
- From the US based National Cancer Institute comes a set of hypertext links leading to a handy collection of statistics. Not surprisingly, the site (www.icic.nci.nih.gov/statistics.shtml) concentrates on US based statistics, but for those interested in this topic, there is a tremendous selection available. It is easy in a statistics collection to drown in large volumes of data, but the sensible layout of this page should allow users to find what they want without becoming overwhelmed.

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We welcome suggestions for websites to be included in future Netlines. Readers should contact Harry Brown at the above email address.

PERSONAL VIEWS

Bullying in medicine

The tears ran down my face, hidden by my surgical mask. My consultant continued relentlessly, "Why can't you do this? It really isn't hard. Are you stupid? Can't you see how to help me?"

I hated myself for crying. I avoided her eyes so she couldn't see my tears and the deep hurt in my eyes, but I couldn't speak without betraying myself. I managed a few one word answers. The criticism continued, if not with words, then with sighs and angry tutting.

The atmosphere in the operating theatre was tense. The staff had all seen this happen many times before—hard working, pleasant trainees reduced to non-functioning wrecks in the space of an operation. I looked helplessly at the scrub nurse, another trainee. She saw my distress immediately and gave me a supporting glance. But she too was suffering. "No, not that one. Why do we have to have trainees in my operations? Not like that," she lashed out at the scrub nurse. Another hard working, competent trainee, now shaking and anxious, her self confidence fast diminishing.

I didn't know what to do. I felt uncomfortable continuing in such distress. Either my consultant didn't notice or she didn't care. I wondered what would happen if I asked to leave and decided that it would probably just make things worse for me. I stayed. Three hours of hostility and criticism. At the end I ripped off my mask and gloves and turned, only to find her standing behind me. She registered my swollen eyes and tear stained face in complete silence. I have never seen such a cold, emotionless stare, and I hope never to again.

> Her behaviour was always the same—on the ward rounds, in clinics, and in theatre

Her behaviour was always the same—on the ward rounds, in clinics, and in theatre. She was hostile, critical, and discouraging. I continued in this post for the complete six months, becoming increasingly anxious and depressed. I left my post feeling suicidal.

I am now taking a year away from medicine. The past year has been hard, coming to terms with what happened to me in my last post. I had naively hoped that bullying stopped at school. Now I know that bullies continue to bully people throughout their lives. The bullying I endured has left me traumatised. Despite being told that she treated everyone this way, I believed it was all my fault.

I couldn't believe that such an intelligent and talented surgeon should need to make herself feel better by making those around her feel terrible. I couldn't believe that this was the basis of basic surgical training. This behaviour is often seen as traditional in surgery, and when I brought it to the notice of consultants at my routine assessment and to the postgraduate dean it was ignored: further abuses of power.

> Some doctors should ask themselves whether they are part of the caring profession

As I look back on this time, I wonder why I felt so helpless. While trying to come to terms with the fact that I effectively let myself be bullied, I read about the experiments in which learnt helplessness was described. A dog was put in a cage and given electric shocks through one side of the floor of the cage. The dog quickly learnt to stay on the other side. The same happened when the other side was used, the dog avoiding the shocks. Then the dog received shocks from all parts of the floor at random. Initially, the dog tried to avoid them, but when unable to it gave up and lay down and received the shocks. After this the cage door was opened. The dog did not escape but stayed on the floor of the cage receiving shocks. I realised that the feeling of being unable to escape is all part of the torture.

I don't know why bullying is still a part of medical training. It does not encourage learning and certainly does not bring out the best in the members of a team. In the past I have been cared for by kind and encouraging seniors. I am now a disillusioned junior doctor, not only because I was bullied by my consultant but also because she is considered suitable to train junior surgeons and because evidence of her bullying is ignored by those who should help and protect junior doctors from such inappropriate behaviour.

Perhaps some doctors should ask themselves whether they are part of the caring profession at all.

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If you would like to submit a personal view please send no more than 850 words to the Editor, BMJ, BMA House, Tavistock Square, London WC1H 9JR or email **editor@bmj.com**

WEBSITE OF THE WEEK

Childhood obesity One of the urban myths of parenting is that chubby children bloom into dumpy adults. There is evidence that childhood obesity is rising, perhaps dramatically. But Charlotte Wright and colleagues (pp 1280-4) infer from their cohort study that there is "no excess adult health risk [of disease] from childhood or teenage overweight." Moreover, thin children are just as likely to be fat adults, with the thinnest having "the highest adult risk at every level of adult obesity." This is welcome news for children fed up with hearing lectures about their eating habits and lack of exercise; less so for parents who like to set firm boundaries.

There is also ongoing debate about web pages coming with a health warning, but as a first step they could come with a date warning. Even the most accomplished search engines throw up stagnant or outdated links at the top of the list. KidSource Online is a "group of parents who want to make a positive and lasting difference in the lives of parents and children." They warn that childhood obesity will persist throughout the life span (www.kidsource.com/kidsource/content2/obesity.html) and the best way to tackle it—and tackle it you must—is a programme of exercise, diet management, and behaviour modification. Shame that the page was last updated in April 2000 and the references date from the 1980s.

The pendulum swings the other way with the "intuitive eating" approach prescribed by Jane Hirschmann and Lela Zaphiropoulos (www.overcomingovereating.com/childhood.html). "Children must be in the driver's seat when it comes to their bodies and to their eating," they argue. This involves "reconnecting" with feelings of hunger and eating that dominated the first months of life.

But don't despair, http://athealth.com, which aims to provide information and services for mental health practitioners and those they serve, links you to evidence from leading US medical publications (www.athealth.com/Consumer/newsletter/FPN_4_16.html#2). The United States department of agriculture offers similar avenues for educators and researchers (www.nal.usda.gov/fnic/pubs/bibs/topics/weight/childhoodobesity.html). Even so, neither site appears to have been updated since June 2000. The web might be alive, but much of it is already dead.

Pills to Africa: how to donate effectively

It's amazing what you can find in the pharmacy of a rural mission hospital in Africa. Many are heavily dependent on the generosity of supporters in the northern hemisphere for valuable supplies of antibiotics, diuretics, and oral hypoglycaemic agents. Unfortunately, well intentioned, but inappropriate donating can also turn developing world hospitals into dumping zones for pharmaceutical junk, sent on the basis of "anything must be better than nothing."

Twenty days' worth of small packs of doctors' free samples of the latest calcium channel blocker will not control a patient's hypertension for long, but might fill a gap while stock of a diuretic is awaited. Six vials of a third generation cephalosporin that have passed their expiry date may breach local policy, but, faced with a child with meningitis failing to respond to penicillin, could save a life. However, the Zambian mission hospital in receipt of a box of amphetamine based appetite suppressants would no doubt still be awaiting a suitable candidate had they not been consigned to the bin.

Anyone employed in the health sector of industrialised countries experiences a disposable culture that contrasts sharply with the needs of hospitals in the less developed world, where surgical gloves may adorn washing lines awaiting a second or third visit to the autoclave for resterilisation. Many theatre nurses in the northern hemisphere faithfully collect unused gloves and suture material to send to health institutions that can make use of them. Some with greater ambitions appear to be encouraging operating theatres in Malawi and Uganda to extend their surgical repertoires by dispatching many metres of cardiopulmonary bypass tubing to them.

Of course, recipient hospitals are free to dispose of donated items that they cannot use, but even this can become an administrative headache. Facilities for safe storage and disposal of medications may not be available. In large quantities medications can become a chemical waste problem threatening environmental contamination. Venezuela struggled to deal with huge quantities of medical aid donated after floods and landslides two years ago. Costly disposal measures have also been required in Armenia, Mostar, and Kosovo.

Swingeing import duties and transport costs have often turned a consignment designed to bless into a bureaucratic curse. Negotiating with a department of customs and excise can be a time consuming and morale sapping process. It took a colleague in Uganda two years to clear a consignment of medical supplies. On final inspection, officials then found the expiry date of a large quantity of surgical gloves to have passed and slapped the surgeon with a bill to cover the cost of destruction of the offending items.

The World Health Organization recently updated its guidelines on drug donations and urged donors to ensure that their donations are of maximum benefit to the recipient; respect the wishes and authority of the recipient; strictly avoid any double standards in quality; and are based on effective communication between donor and recipient. Six donor countries and 13 recipient countries have now developed their own drug donation guidelines.

Good drug donations save lives and are much needed, especially in times of crisis. The indirect benefits should not be underestimated either. The collection of drugs and medical products can act as a focal activity for supporters and donators, promoting interest in the work of a mission hospital or relief organisation and a sense of meaningful participation.

Guidelines for responsible donating

Donors

- Ask first before collecting/despatching
- Seek advice on the best method of transportation and completion of customs declaration form
- Discuss local policies on expired and near expired items, antibiotics, antivirals, and psychotropic drugs
- Enclose an itemised list in the official local language, including generic drug names (recipients may not be familiar with trade names) and information on shelf life

Recipients

- Investigate if your country has its own drug donation guidelines
- Ascertain information on the local policy regarding expired products
- Send a copy of the local drug policy/essential drugs list to your regular donors or a shopping list of useful products
- For equipment, consider practical details such as "What will it plug into?", "How will it be maintained?", and "Who will benefit from it?"
- Learn to say "No" without fear of causing offence

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SOUNDINGS

Passing out parade

I wrote one myself once, when a friend of more than 30 years drowned on holiday, in high summer and at the peak of his formidable powers. Most aren't like that. They tell of longer lives: of careers—whether glorious, dutiful, or just humdrum—that went the distance; of retirements enriched by strange pastimes; and of final illnesses. They remind us we must die.

But they are also vivifying. Each week offers a gallery of portraits of lives mostly unknown until over. And the pleasures they elicit are not voyeuristic, but those of the vast enjoyable diversity of our profession, and of our common humanity.

Even colleagues we thought we knew quite well surprise us when they are gone. A modest and kindly obstetrician, later a dean, is posthumously revealed as a wartime hero, a ship's doctor imperturbable on a burning destroyer. Thus his Distinguished Service Cross is explained, along with his calm, wry management of the worst that any faculty committee could throw at him. And a more peppery senior colleague can be forgiven a little now that the details of a sadly deprived childhood (Eton, also during the war) have surfaced.

But it is the strangers who intrigue us most: the aspiring actuary who switched to medicine, practised in the wilds of Canada, and trained as a pilot (fixed wing and helicopter); the paediatrician who made Calman reforms work "through his effective mix of lucidity, assertiveness, and humour," and in his retirement composed a guitar concerto; and the psychiatrist who pioneered home treatment for patients with severe mental illness, "and thought nothing of helping them with their housework while conducting expert psychiatric assessment."

Three brief lives, all from one batch of *BMJ* obituaries (*BMJ* 2001;323:696), with so many more to relish over the years. They are our folklore, our collective memory, our most dignified of gossip columns, and—for those of us for whom the appeal of the job advertisements has long faded—a treat to look forward to each week.

Now, like a lot else in the *BMJ*, obituaries have changed: more and shorter, with longer versions on the website for those who wish further details. I have only one further suggestion. They offer so much that their role in our professional development should now be properly recognised: by a modest award—to be claimed on visiting and perusing the website—of CME points.

Colin Douglas *doctor and novelist, Edinburgh*