

## The humane genome project

### Abraham Lincoln's DNA and Other Adventures in Genetics

by Philip R. Reilly

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The meaning of the term 'forensic' has been narrowed over the years by the suffix 'science' that pops unbidden into most people's minds when they hear it. But it originally meant simply "of courts of law". Forensic skill can thus be displayed as much by a barrister pleading his client's case as by a bench scientist analysing the tissue samples that may form a part of that case. It is a tribute to Philip R. Reilly's origins as a lawyer (even if he did then see the light and go on to study genetics and medicine) that his book, *Abraham Lincoln's DNA and Other Adventures in Genetics*, is suffused equally with the values of the old and the new meanings of the word. The science of the book is generally sound. And its underlying plea—for a civilized and liberal absorption of genetic knowledge into the social and legal frameworks of the United States (and by extension, one assumes, into those of other countries too)—comes through clearly without the author ever adopting a bullying tone. After such a summing up, few juries would remain unpersuaded.

*Abraham Lincoln's DNA* is an enjoyable and stimulating work, even if the title is somewhat misleading. In 20 of the book's 24 chapters, Reilly examines the social and political implications of modern genetics. The history promised in the title—the chapter on Lincoln and his possible Marfan syndrome—is actually one of four outliers

that open the book. The others address George III's porphyria, Henri de Toulouse-Lautrec's dwarfism, and the confirmation that bones found at the bottom of a mine shaft near Yekaterinberg in Russia really did belong to the last Czar and his family.

Though interesting, these essays seem to have little connection with the rest of the treatise, which is firmly anchored in the present. In this, Reilly dissects, with suitable forensic skill, most of the usual suspects: the effect of DNA-based science on the courts; the extent to which human behaviour is under genetic influence; the ethical and practical questions connected with transgenic organisms and the application of genetics to medicine; and the clash of private and public interests inherent in genetic knowledge and technology.

Most of these topics are well-trodden ground, of course. But Reilly brings a fresh eye to them, and also a great deal of personal experience. The text contains constant asides on cases in which he has been called as an expert witness, or has been placed personally by his practice as a doctor into one of the ethical dilemmas that for most people are, at the moment at least, mere debating points. In one case, for example, he found himself in the awkward position of raising technical objections to the forensic use of PCR, a technology whose efficacy he strongly believed in, simply to give a

defence lawyer something with which to defend his client. On another occasion, he diagnosed a man with fragile-X syndrome and wanted to inform the man's nieces, in order to warn them of the risks to any sons they might give birth to. But their mother, the sister and guardian of Reilly's patient, forbade him. She was against abortion on principle. Her daughters were not.

He also reveals the tortuous and messy process by which case law is built up, once again illustrating his points by reference to his own experience. He was involved in the *Davis v. Davis* case in Tennessee as it wound its way from appeal to appeal. The point at issue was the custody of some eight-cell human embryos conceived by *in vitro* fertilization by a couple that had subsequently divorced. In that case the ex-husband, who wanted the embryos destroyed, prevailed. The state's supreme court based its judgment on *Roe v. Wade*, the case that confirmed a constitutional right to abortion in the US. But the same precedent was used to reach the opposite conclusion in a similar case in New York State, although that judgment was eventually overturned on appeal. Such are the vagaries of the law...

Reilly is similarly realistic about the way that technological capabilities in areas such as human cloning will almost inevitably ride roughshod over legal attempts to contain them. He grasps the point—too frequently ignored by the anti-cloning brigade—that the only thing that really matters is the welfare of the cloned individual. But of course it is only by observing how illegally cloned humans grow up that people will be able to judge whether clones are healthy in body and mind, and thus whether the law that tried to forbid them was really an ass or not.

In summary, *Abraham Lincoln's DNA* is a good overview of the current state of genetic ethics. It will tell the expert little he or she did not know already. But for those at the scientific end of genetics who ponder about the impact that their subject will have on society, and who want to be prepared for the sort of hard questions that laymen might ask them at cocktail parties, it is an excellent read. □

